a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

MAY, 1957

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Textile Engineering
BLEACHING & FINISHING

Continuous processing in all phases of textile finishing has already proved its ability to cut production costs, increase production and overall profit.
Many leaders in the bleaching and finishing field have already tooled up to engage in this faster, more profitable form of production. On hand, to blueprint the modernization, the production layout, and the new buildings that house many of the nation's most modern operations, have been the skilled planners in the Textile Engineering Division of Robert and Company Associates.
An engineering survey of your existing operations will enable you to better judge your expansion and profit potential, as our more than 40 years experience in all phases of textile engineering has helped others.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

4
University Microfilms
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Ann Arbor Mich

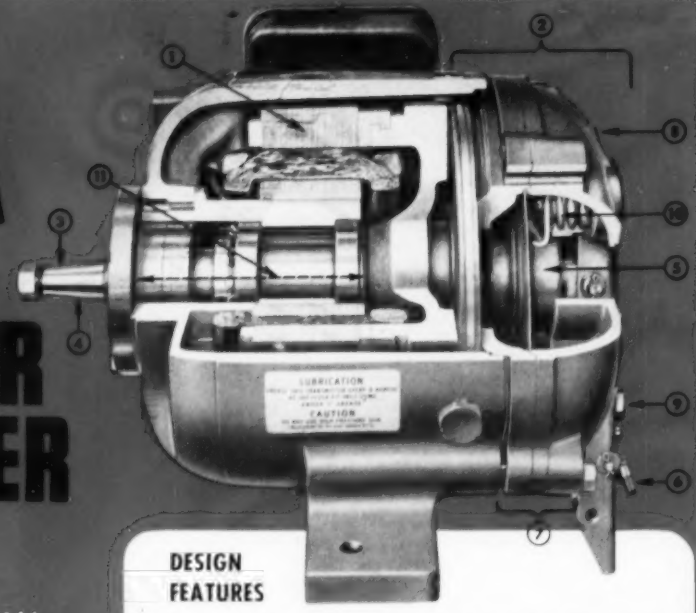
Next Month: Special Section on Tufted Textiles

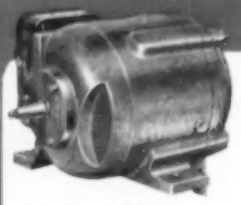
THE DEPENDABLE DIEHL

"BA" POWER TRANSMITTER

For Draper Looms

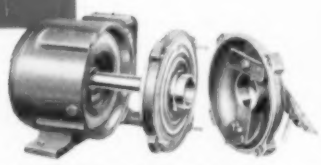
Exclusive new design features mean . . . *consistent* quality production . . . *peak* operating efficiency . . . minimum maintenance, labor and costs!





STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)

CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

DESIGN FEATURES

*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.

The original and only loom power transmitter . . . plus many outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The "BA" Power Transmitter is even *more* compact, *more* streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

plus these outstanding Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

** Exclusive feature—patent protected.*

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Electrical Division of THE SINGER MANUFACTURING COMPANY

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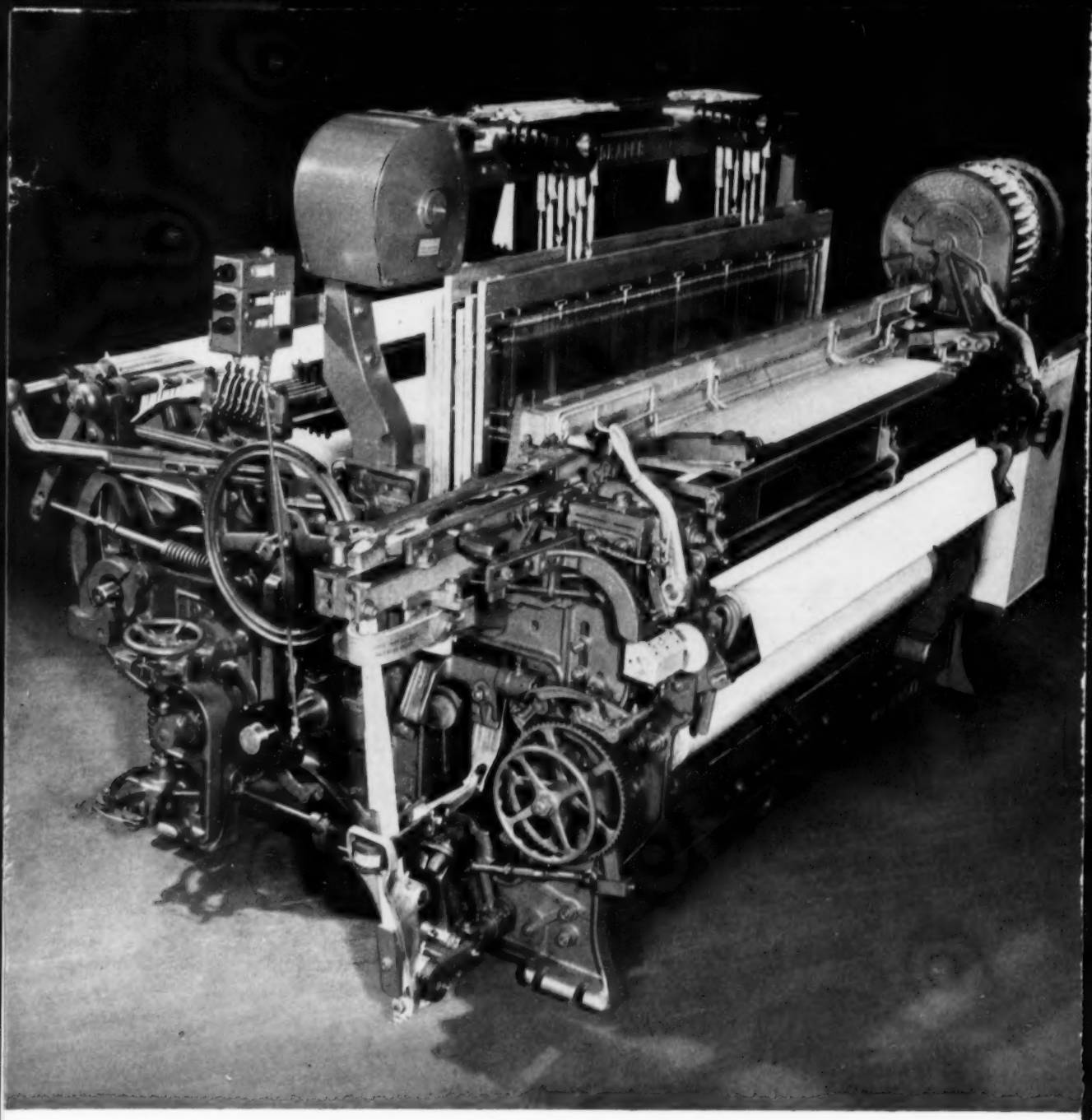


This loom gives you all the competitive advantages

Long range flexibility, practical and economical operation, higher production, increased efficiency and a new low in maintenance cost are major benefits offered by the new Draper X-2.

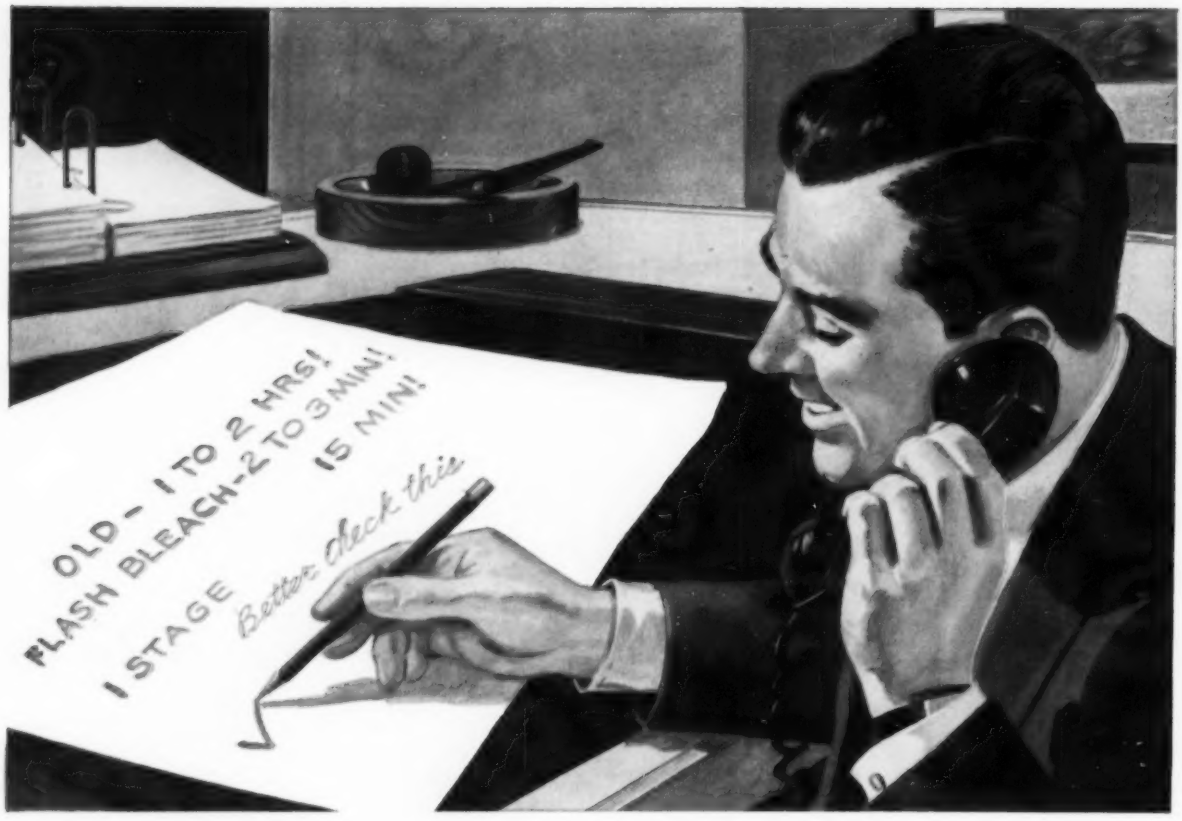
The changing fashions in cotton and synthetics create a need for a loom which can be converted on short notice to weave a wide variety of fabrics.

The X-2 with its ability to weave cottons or synthetics equally well, answers this conversion problem.

The combined advantages of the Draper X-2 mean . . . higher mill profits.

DRAPER CORPORATION

Hopedale, Mass. *Atlanta, Ga.* *Greensboro, N. C.* *Spartanburg, S. C.*



Heard the Latest About Continuous Bleaching?

A Becco process now under development will flash-bleach cotton in 2 to 3 *minutes!* A practical Becco process will bleach in 15 minutes on the *conventional* continuous bleaching range.

Becco Single-Stage Bleaching continues to establish economy records on several types of goods. Becco Single-Stage Bleaching dispenses with separate caustic saturation, dispenses with a second J-box. Equipment cost is reduced. Less space is required for the bleaching range. Economies are measurable and important!

Ask a Becco field engineer or write us direct for information about Becco's Single-Stage Bleaching process, one of the first Becco-developed continuous processes.

Look to Becco for the results of 30 years' research in the application of peroxygen chemicals to all types of bleaching processes.

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Food Machinery and Chemical Corporation
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NBP BPA

Textile Industries

Formerly "COTTON"

Vol. 121, No. 5
May, 1957

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Limited core storage no problem for

GEORGIA RUG MILL

Textile Paper Products, with regular deliveries rain or shine, serves as their "warehouse"

TWICE A WEEK cores are delivered to Georgia Rug Mill's Summerville, Ga., plant by Textile Paper Products' own carrier fleet. Mill space, ordinarily required for bulky core storage, is thus freed for productive use.

Increased space efficiency and lower handling costs are advantages enjoyed by mills with whom we have worked out regularly scheduled deliveries. Cores arrive in perfect condition, undamaged by exposure. Delivery by our fleet eliminates transfers, which often are necessary by public carrier. From our three strategically located plants any mill in the Southeast and Southwest is an "overnight" destination. Let us serve you.

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Manufacturers of better Tubes, Cores, Boards, Car Lining and Beaming Paper

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Plants in Cedartown, Crossett, Ark., Bogalusa, La.

Shorts and Remnants

by J. C. C.

► With Feb. PURCHASING (see comments below) and the April KNITTING issues already past, and June TUFTING, Sept. SYNTHETICS, Nov. WET PROCESSING, and Mid-November ANNUAL EQUIPMENT PARADE & BUYER'S GUIDE coming up we'll just have to settle this month for our little ole annual May issue.

But S&R just looked over the contents coming up this month and decided there was so much for everybody that it wouldn't make much difference what creeps into this here column this month.

Look through the issue and you'll agree.

► Every now and then we will bet you, as well as we, figure this column can't get any worse anyway.

Then we think of old Capt. Billy Bryant who had a thriving Show Boat troupe on the Ohio River down at Cincinnati—so thriving that he listened to some promoters who convinced him his show was just right for Broadway. It wasn't, and Capt. Billy went from theatre to night club playing to N. Y. audiences who sat on their hands; till one night he stopped the show to tell the audiences they better applaud for if they thought this show was lousy, just wait till next week when he'd give them "King Lear."

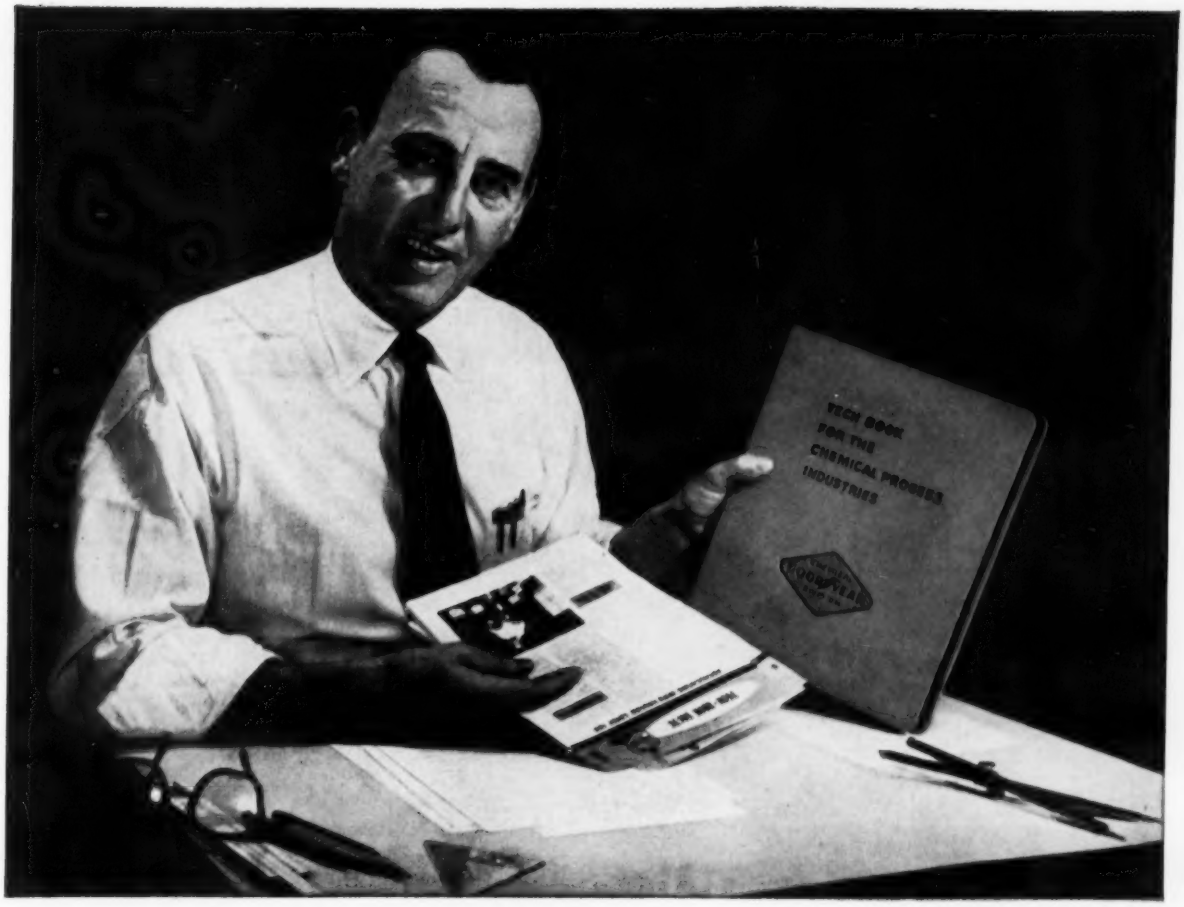
So, if you think S&R is sorry this month we'll put on "East Lynne" for June.

► For humor, we'll just pass on the one about the fellow who found a friend of his silently tearing up paper napkins into small pieces and shoving them up his nose. Questioning his friend on this strange behavior, he was told, "Nothing strange about it. This is to keep the elephants away."

"Then you must be drunk or crazy," the fellow said to his friend, "there are no elephants within 500 miles of here."

"See," his friend responded, continuing with the stuffing, "I told you it keeps the elephants away."

► And a big Chicago ad man tells us about good old Charlie Chan, the de-



Now—A "Living Textbook" on Latex for You

Pictured above is the start of a new service to you from Goodyear. It's the *Tech Book for the Chemical Process Industries*—a compilation of technical information on the resins, rubbers, latices and related chemicals offered by the Chemical Division.

Of particular interest to you will be the sections of the Tech Book devoted to the complete line of latices manufactured by Goodyear. For here you'll find straightforward, detailed information on where, why and how to use the PLIOLITE Latices (both styrene rubber and resin types), the CHEMIGUM Latices (nitrile rubber type) and the PLIOVIC Latices (vinyl resin type) in superior sizes, saturants, inks and adhesives.

Moreover, this is just the "starter" of Tech Book service. It comes in a convenient, loose-leaf form so that it can be readily supplemented by periodic bulletins to keep *it* alive and *you* fully informed. Write today, on company letterhead, for your Tech Book and the start of the complete story on PLIOLITE, CHEMIGUM AND PLIOVIC LATICES plus other materials you can use to advantage. Address: Goodyear, Chemical Division, Akron 16, Ohio.

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GOODYEAR
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COATINGS
DEPARTMENT

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CHEMIGUM • PLIOFLEX • PLIOLITE • PLIO-TUF • PLIOVIC • WING-CHEMICALS

High Polymer Resins, Rubbers, Latices and Related Chemicals for the Process Industries

As miners of Sulfur Bearing Ores, we are now producing another Basic Sulfur Textile Chemical, **TC HYDRO** for the Southern Textile Industry.

SODIUM HYDROSULFITE
TC HYDRO
TENNESSEE CORPORATION
CONCENTRATED

SPEEDY DELIVERY SERVICE

Our location in the heart of the Southern textile industry, permits us to render overnight truckload service to most Southern textile plants. Small lot shipments are available from centrally located warehouses.

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Long a trusted source of Sulfuric Acid, Sulfur Dioxide, Organic Sulfonates and other textile chemicals, we are utilizing our know-how and basic position in Sulfur Chemistry to produce another quality product for the textile industry.

HIGHEST QUALITY

TC HYDRO is a dry, white, free flowing, crystalline powder of uniform size and structure. It is dust-free, assuring highest stability and uniformity.

Phone, wire or write for literature and test samples if desired.

TENNESSEE CORPORATION

617-629 Grant Building, Atlanta, Georgia

Shorts and Remnants

tective, and his valuable collection of teakwood which he guarded closely. One night in the middle of the night, hearing noises, he crept down to find what looked like a bear carrying off his valuable teakwood. Looking closer he said the creature actually had the feet of a human being. This was the end, so he cried out "Stop boy-foot bear with teaks of Chan!"

► OK, so maybe "East Lynne" will be better. And just remember what **Karl Marx** (Robert Reiner Co. exec.) says in his "Random Thoughts," "Good medicine seldom tastes good" or "Don't look for pears under an apple tree."

► A recent issue of the "Manchester (England) Guardian Weekly" had an ad by Imperial Chemical Industries Ltd. claiming responsibility for five of the seven major dyestuffs discoveries of the past 36 years. Now S&R doesn't know why "36 years" and "who decides what are major dyestuffs discoveries," so he requested ICI to enumerate. A letter from **Arnold Hoffman & Co., Inc.,** Providence, R. I., an affiliate and representative of ICI in the U.S.A., lists the seven major dyestuffs discoveries since 1921 as:

1. Caledon Jade Green
2. Duranol dyestuffs
3. Monastral Fast Blue B
4. Alcian Blue 8G
5. Procion dyestuffs
6. Pre-metalized dyestuffs for dyeing wool
7. Solubilized vat dyestuffs

Descriptions are omitted, but they will be given on request. According to our informant, all but the last two were made in ICI or immediate predecessor laboratories. Any competitors want to comment?

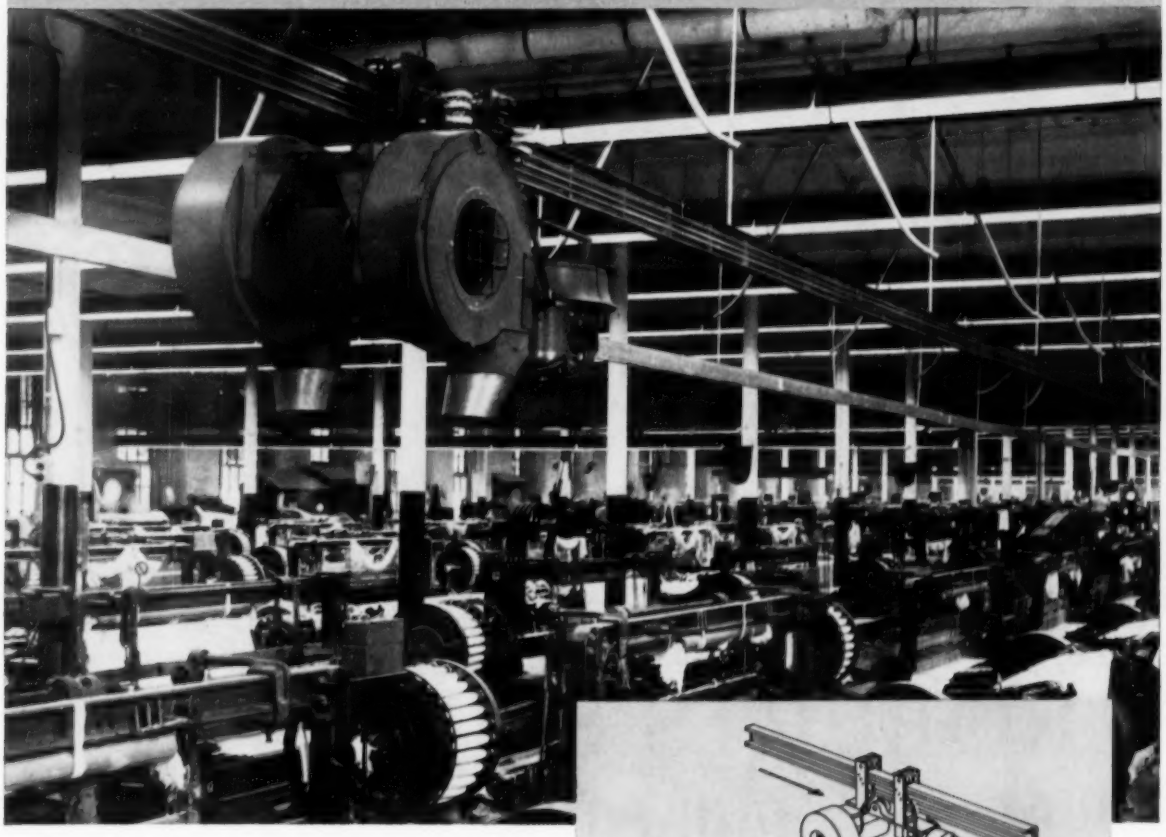
► Speaking of dyes, **Jack Firpo,** Francolor U.S.A. rep., still says this year is the centennial—100th anniversary, that is—of fuchsin, the only dyestuff still around after 100 years.

► And speaking again of the English, North Carolina mills that recently were visited on the same day or succeeding days by officials of various and sundry Scraggs firms of Macclesfield, Eng., may well have wondered. Old S&R ran into **Eric Kite,** Sales Mgr. of Ernest Scragg & Sons

(Continued on page 12)

Amco Introduces it's New

Heliclone Loom Cleaner



Provides automatic, continuous cleaning of looms and ceiling • Drastically cuts cleaning costs • Steps up production • Improves quality of fabric • Reduces fire hazard • Improves weave room appearance • Boosts employee morale • Can be incorporated with beam handling equipment.

Write for further information, or ask to have an Amco engineer call.

Swiftly whirling outlet nozzles, driven by the air stream, direct the air jets at an acute angle in overlapping, circular paths. The result is a rapid series of high-velocity bursts of air over loom and warp surfaces for complete cleaning action.

AMERICAN MOISTENING COMPANY *Air Conditioning Systems and Textile Mill Equipment*

Executive Offices: Cleveland, N. C. Branches in Atlanta, Boston, Camden, Providence, Toronto

ROBERTS SPINNING

Today's standard for production, yarn quality and investment

Roberts Spinning is setting today's standard for comparison in high drafts, package sizes, roving bobbin sizes, front roll speeds, ends up, yarn break factor—and at the lowest investment cost per spindle.

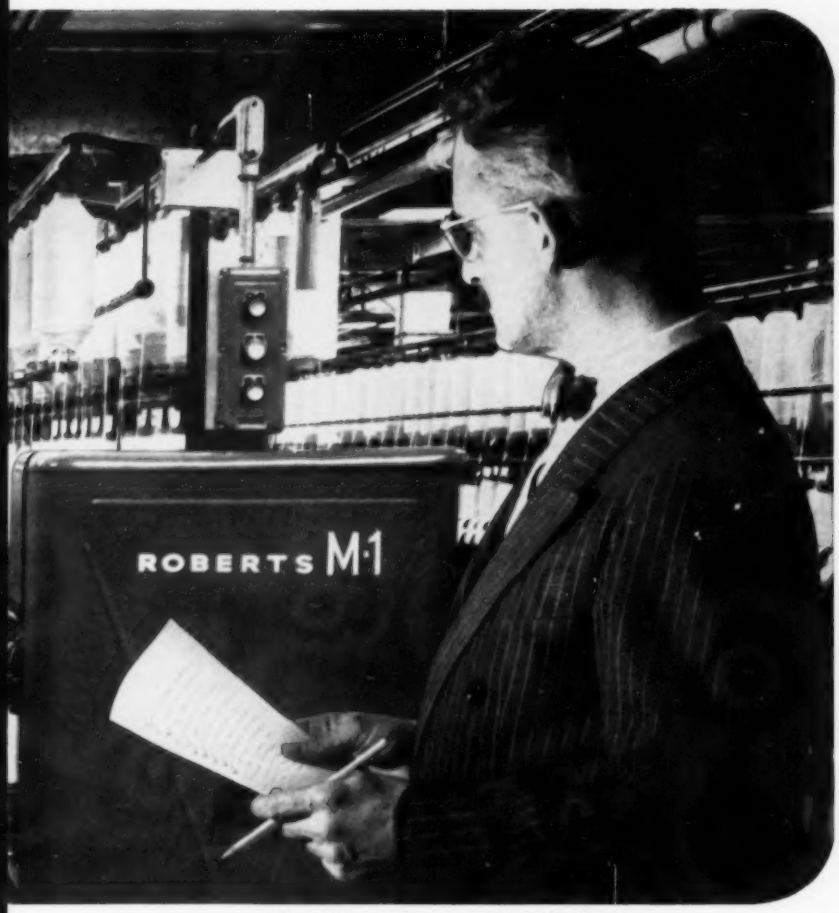
TRIED AND PROVEN. The Roberts M-1 Spinning Frame is simple and straightforward, free from radical innovations or gadgets. Its design has already been tried and proven in many successful applications. It embodies all the ball bearing features most wanted in a modern spinning frame, giving highest production and lowest maintenance.

ROBERTS DRAFTING. Roberts Double-Apron Drafting produces highest break factors, best yarn evenness and lowest ends down in a range of drafts from 10 to 60, for yarn numbers from 2's to 100's, in cotton, synthetics with staples up to 3 inches long, or blends.

LARGE PACKAGE FLEXIBILITY. One basic model of the Roberts M-1 Spinning Frame is adapted to run warp bobbins with lengths from 10 inches to 12 inches as well as filling quills. Standard gauges from 3 inches to 4½ inches can be arranged to employ the maximum desirable ring size suitable for the yarn number and twist constant.

RUGGEDNESS WITH SIMPLICITY. The frame chassis is of rugged construction. The working motions use ball bearings for every turning and oscillating motion where practical. The all-ball-bearing head design is outstanding in its simplicity and flexibility. All gears in the head are hardened and have one pitch, one width, one bore and one keyway, making them completely interchangeable. Greased-for-life bearings are used in the head and all plain bearings and studs are eliminated. Draft and lay constants are adjusted simply over the complete range of yarn numbers.

STANDARD FEATURES. Standard equipment includes Roberts Ball Bearing Spindles, Roberts built-in UnitVac Suction Cleaning. Roberts AeroCreels are available in every desired package size, single or double.



Part of a spinning room in a mill with over 100 Roberts 25-inch Spinning Frames.

ROBERTS SPINNING AVAILABLE IN 3 FORMS PROVIDES MODERNIZATION AT LOWEST COST

The cost-cutting, performance, and quality features of Roberts Spinning can be obtained through changeovers to the mills' existing spinning frames, or through rebuilt frames supplied by Roberts, as well as Roberts M-1 Spinning Frames. Roberts Proposals for Spinning Modernization provide comparison on these 3 methods.

CHANGEOVERS to the mills' existing machinery can include drafting systems, spindles, creels, suction cleaning, tape drive, gearing, or any combination of these to provide the maximum return for minimum expenditures. Performance equal to new can be built into mills' existing machinery if desired in every manner and form.

ROBERTS MODEL 55-R REBUILT FRAMES provide complete new spinning performance making use only of non-functional support members of older frames, thus affecting a substantial savings and taking advantage of the all-new spinning performance and features identical to all-new frames.

ROBERTS M-1 SPINNING FRAMES are excitingly new from the ground up, with all ball bearing features. They are available in 39 inch, 36 inch, and the space-saving 25 inch widths.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

ROBERTS SPINNING NEWS

TOP ROLL SUSPENSION USES BALL BEARINGS IN ALL THREE LINES

The Roberts Ball Bearing Top Roll Suspension System uses double-row ball bearings in front, middle and back lines and incorporates many other important design advantages.

Cots have ½" hole diameter, revolve together making lap removal simpler, and are buffed on standard equipment, without attachments. Full length revolving clearers are used.

Front and back rolls are interchangeable making sequence buffing possible.

The double-row bearing raceways are ground directly into ½" shafts. Bearings are grease-packed for life and a 2-piece labyrinth seal protects them from lint entrance and roll picker damage.

The system has controlled self-alignment. Conventional deadweighting or new spring weighting is optional.

An alternate arrangement also available employs a ball bearing top roll and special suspension on the front line only with Roberts Cap Bars and solid top rolls on middle and back top rolls.

Roberts also continues to offer its No-Oil Cap Bar and Saddle system for all three lines, now installed in more than 2½ million spindles.

ROBERTS M-1 SPINNING FRAMES MADE IN THREE WIDTHS

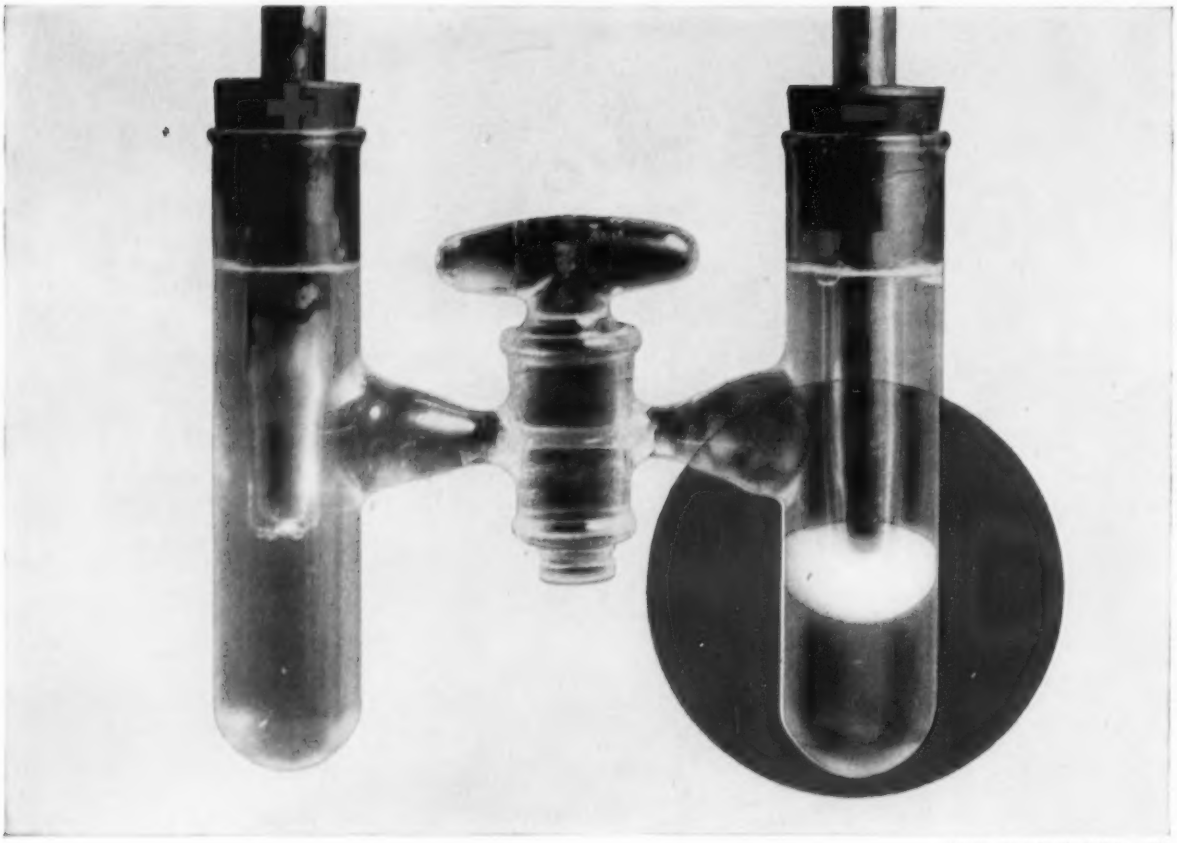
Where it is desirable to match frame widths already in the mill, Roberts makes and incorporates all of its design features of its new frames in standard 36 and 39 inch widths. All the ball bearing features and details are built into these wider frames.

The Roberts M-1 25 inch wide Spinning Frame permits 5 frames instead of 4 in a 25 foot mill bay, retaining 30-inch aisles and increasing yarn production 25% in the same place.

Creel designs have been arranged for the frames to handle 12 by 7 roving packages on as low as a 3-inch gauge frame. 10 by 5 double creels are designed for 3½ inch and larger gauges. In all cases, widths and heights of creel are not excessive with consideration being given for ease of creeling for the operators.

ROBERTS "TURNKEY" ERECTION SERVICE

Roberts "Turnkey" Erection Service is available in all 3 modernization arrangements: buying complete new spinning frames, buying modernized frames, or changing over the frames on your floor. In each arrangement, Roberts is entirely responsible for installation and performance.



This is an unretouched photograph.

NEW! A CATIONIC STARCH

An entirely new concept is shown in the above electrophoresis cell. The cloudy mass about the cathode is National's CATO®—the first cationic starch for textiles.

CATO carries a cationic charge as an integral part of its polymeric structure. The result? A strong electrochemical affinity for negatively charged fibers—as proved by CATO's migration under applied potential to the cathode of the electrophoresis cell.

CATO shows unusual promise as a warp size for cotton, wool, Fiberglas, viscose and other synthetics. Preliminary tests strongly indicate less shedding, greater tensile strength and improved weaving. Moreover, CATO may well offer other striking advantages in printing and finishing.

Sound interesting? We'll be glad to supply trial quantities and have one of our textile specialists demonstrate in your plant.

National
STARCH PRODUCTS INC.

270 Madison Avenue, New York 16 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

this Year, as usual...

the high-fashion, high-profit fabrics

are woven on C&K AUTOMATIC BOX LOOMS

CROMPTON & KNOWLES *Corporation*

MANUFACTURER OF THE WORLD'S LONGEST LINE OF AUTOMATIC BOX LOOMS

WORCESTER 1, MASSACHUSETTS, U.S.A.

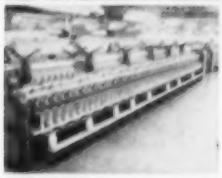
CHARLOTTE, N. C. · PHILADELPHIA, PA. · ALLENTOWN, PA.

Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I. · Crompton & Knowles of Canada Ltd., Montreal, Quebec

CROMPTON & KNOWLES CORPORATION C&K WORCESTER, MASS. U.S.A.

Another user of D & F

"Coordinated Production"



NEW
ALBANY FELT COMPANY PLANT
ST. STEPHEN, SOUTH CAROLINA

The Albany Felt Company is the world's largest manufacturer of paper maker's felts. Significantly, this company chose new Davis & Furber equipment for every possible phase of its operations.

Among the "coordinated" D & F machines installed, *shown at left*, were D & F 84" wide Model L cards, Model F (5" rings) and Model G (7¼" rings) spinning frames, a Model 60 Warp Spooler, and a 500" Sectional Warp Dressing Reel. The South is justly proud of the St. Stephen plant, the first complete wool paper maker's felt plant in that section.

Other quality-minded woolen mills can benefit by investigating this type of "coordinated production" that resulted from D & F research and development in special requirements and sizes. For, Davis & Furber design and manufacturing facilities are "engineered" to *anticipate* trends in textile production. This permits many improvements in existing equipment that can increase quality and production to meet the demands of competitive markets.

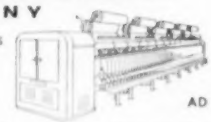
D & F "coordinated production" ties Davis & Furber equipment right into your own production needs. It includes in-the-mill services of trained D & F technicians, D & F design engineers, D & F experienced erectors, along with their survey, study and analysis. In addition, you receive complete advice and availability on supplies, accessories and spare parts. **This is a "Package Plan" that assures satisfaction from one source in all these phases of operation.**

When you want new-plant quality and yield, modernization of existing equipment, or properly specified accessories and supplies, call on Davis & Furber at North Andover or Charlotte.

1832 — *Our 125th Year* — 1957
SERVICE TO THE TEXTILE INDUSTRY

DAVIS & FURBER
MACHINE COMPANY

TEXTILE MACHINERY DESIGNERS
AND MANUFACTURERS
North Andover, Mass.
Charlotte, North Carolina



AD 12-1

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS
SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

Shorts and Remnants

(Continued from page 6)

Ltd. Another TI rep. apparently met **James Marshall** of Sydney & E. Scragg Ltd., both in Greensboro, N. C., the same day. Both make and sell twisting machinery. Both were just ending up world tours or something similar. Let's hope nobody mixes them up in ordering machinery.

► Just in case you wonder about the mother-in-law jokes—just in case, we read somewhere the other day that ancient savages started this and wouldn't even talk to or look at mothers-in-law. An ancient New Britain oath is "If I am not telling the truth, I hope to shake hands with my mother-in-law."

► **Chemstrand Corp.** broke the previous world's textile plant safety record at their nylon plant at Pensacola, Fla., on March 12, passing the previous record of 13,624,000 man-hours without a lost time accident. Formal celebration was March 27. Two very good booklets on Chemstrand operation include "Chemstrand Nylon Story" (rotogravure) and "The Chemstrand Story"—giving data on Acrilan and nylon production, and stressing careers with a future.

► If you like poetry, here is our friend, **Watson J. Wood,** Knitters Ltd., Lindsay, Ont. Can., again with

Not Responsible

A illtle old lady of religious mind,
Was buying a sweater, for a girl in kind;
With supercilliousness and put-on airs
The attendant showed her all his wares;
Said he, "The sweaters there on view
Any one—madam—would just suit you!!"
The sweet old lady, with a distant look
Consulted prices from her little book
And mumuring, "How beautiful the sweaters were, and fine"
Demanded: "Why is this one dearest in that line?"
This time the assistant said, in a voice both flat and dull,
"Madam, please, that one is made from Virgin Wool!!"
Said she, with evident pleasure, yet in a tone subdued,
"For what the sheep do in the pasture, I'm not going to be doed."

Or maybe you like the more direct approach submitted by TI's aggressive ad mgr. for suppliers:

Early to bed
Early to rise
Up with the birds
And ADVERTISE

Purchasing

In case you missed the Feb. '57 PURCHASING section, we have a limited number of reprints—one to a

another

AVISCO® FIBER SERVICE

BEAMED YARN of rayon or acetate, with beam racks to ease its handling and storage even more, has important advantages for all but the smallest mill.

You save beaming operation costs.

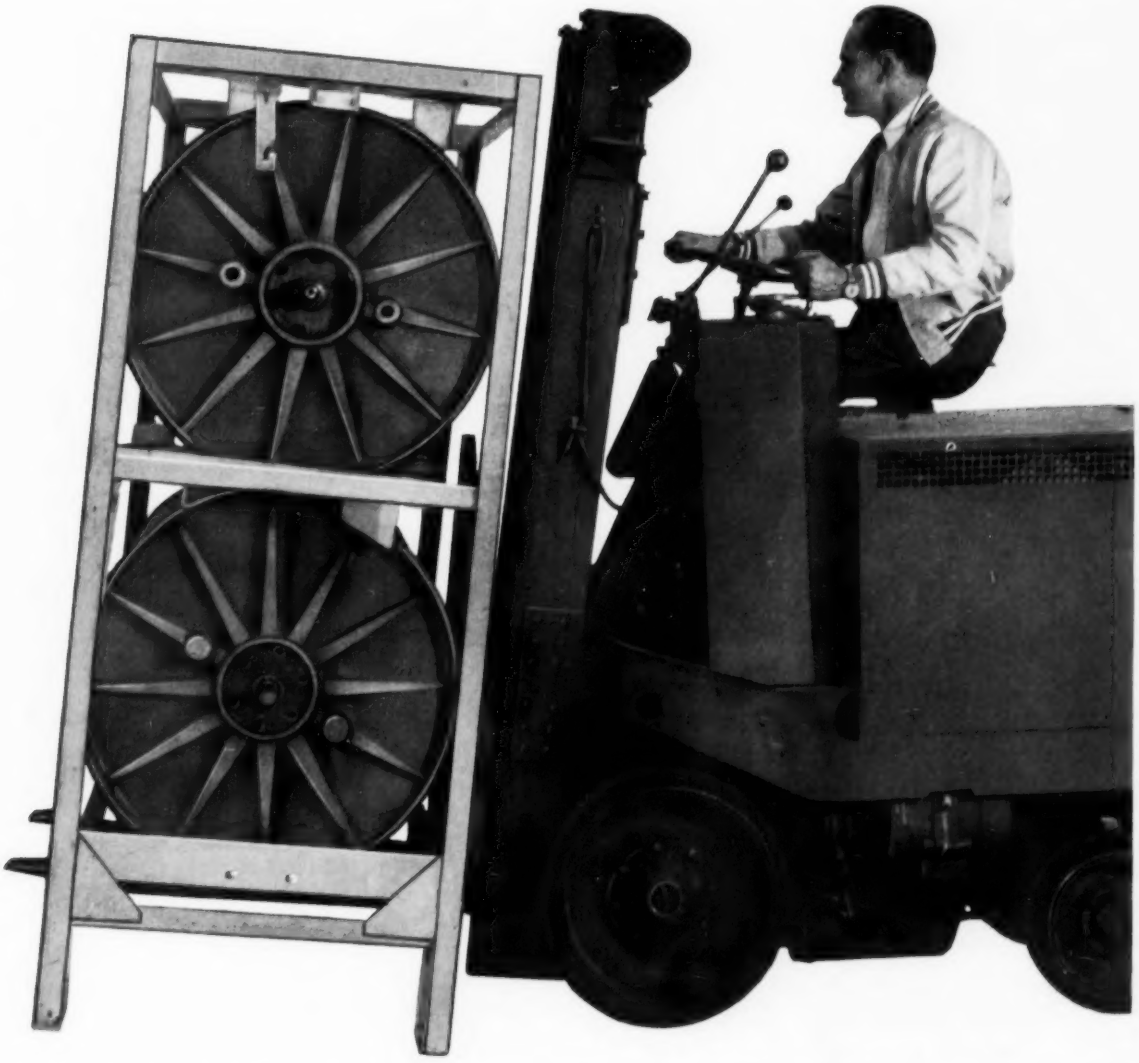
Large quantities of yarn moved easily with a fork truck; storage is simplified.

Dye levelness is improved in finished fabric.

Major yarn damage hazards are eliminated.

Avisco beamed yarn is practically knotless.

We will gladly send, upon request, a new illustrated booklet about the benefits and specifications of beams and beam racks . . . one of many services inaugurated for American Viscose customers.



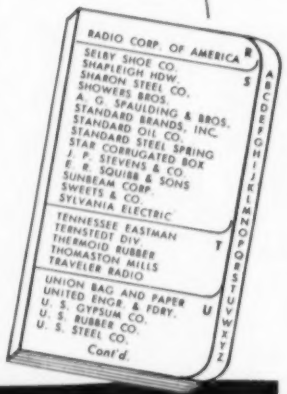
Counsel is as near as your phone, at LA 4-7200. **AMERICAN VISCOSE CORP.**, 350 Fifth Ave., New York 1, N.Y.

Logan Conveyors facilitate movement of cloth to and from storage in cotton mill warehouse. Reversible inclined Slat Conveyor from first floor connects to Roller Conveyor at second floor. Bales, boxes and cartons are handled with equal ease.

The LEADERS use Logan

. . . to keep things moving, in the modern industrial plant. Costly stops and starts are avoided—with correctly engineered Logan Conveyors. This famous equipment delivers materials and parts at convenient working heights, dispatches the product without manual effort to the next operation, puts flow into production. "Stay with the leaders—specify Logan Conveyors." Remember, they give you that something extra in engineering and design. Write for further information or for nearest engineer to call.

LOGAN CO., 206 CABEL ST., LOUISVILLE 6, KY.



Logan Conveyors

Shorts and Remnants

reader—upon request.

C. M. Vernon, Dir. Purchases, Dan River Mills, Inc., writes, "You will, I know, be interested in the fact that we have had literally hundreds of comments on the nice article you did on this department in the Feb. issue" . . . and again, "Due to the great number of requests we have had for the reprint . . . another dozen copies of same if they are available."

Other Dan River folks writing nice things about this presentation included: **Wm. J. Erwin,** Pres.; **Basil D. Browder,** Exec. V.P.; **C. Eugene Rowe,** Sec.-Treas.; **M. A. Cross,** Dir. Pub. Relations, etc.

C. Kramer, Carport Corp., Owosso, Mich., takes exception to the article in the PURCHASING section on "It's Service — Not Personality That Counts." He says he "can't believe anyone with business experience would subscribe to the underlined."

Be that as it may, compliments and reprint requests for PURCHASING come from such as **R. Hoffman,** Plant Mgr. Skenandoa Rayon Corp., Utica, N. Y.; **P. J. Osborne,** R. C. Osborne & Co., Phila.; **John H. Thompson,** Pur. Agt. Perry Knitting Co., Perry, N. Y.; **Ted Fishman,** Pur. Agt. Rockland Bleach & Dye Works Co., Baltimore, Md.; **C. O. Lee,** Pur. Agt. Coats & Clark, Inc., Albany, Ga.; **H. L. Norton,** E. I. du Pont de Nemours & Co., Inc., Atlanta, Ga.; **Richard C. Carr,** Olin Mathieson Chem. Corp., Baltimore, Md.; **L. R. Nunn,** Sales Mgr. Pilot Freight Carriers, Inc., Winston-Salem, N. C.; **K. W. Bahlo,** Textile Div., Cosa Corp., N. Y. City; **John A. Freed,** Adv. Mgr. Universal Winding Co., Providence, etc. etc.

► If you got to the Knitting Arts Exhibition last month, we hope you picked up a copy of "Historical New Hampshire" at the **Laconia Cooper Corp.** booth, as it gives some interesting history on early American knitting, including machinery and needle manufacturing (more on this next month).

Knitting Neckwear

"Please send 10 sheets 'How Full-Fashioned Neckwear is Made' (Jan. '57)"

J. E. MELKER

Riverdale 13, N. Y.

Traveler Speeds

"We would appreciate it very greatly if you would send us three

PERFORMANCE

records unsurpassed . . . backed by millions of spindles equipped.

NEWEST

and latest developments are standard equipment with Pneumafil.

ECONOMICAL

to operate . . . virtually no maintenance costs— a rugged piece of machinery.

UNLIMITED

types and arrangements of Pneumafil systems . . . engineered for any fiber or mill condition.

MILL MEN'S

practical ideas and valuable suggestions are incorporated in all Pneumafil equipment.

ADVANCED STYLING

and construction blends in with today's modern spinning processes.

FEWER ENDS DOWN—

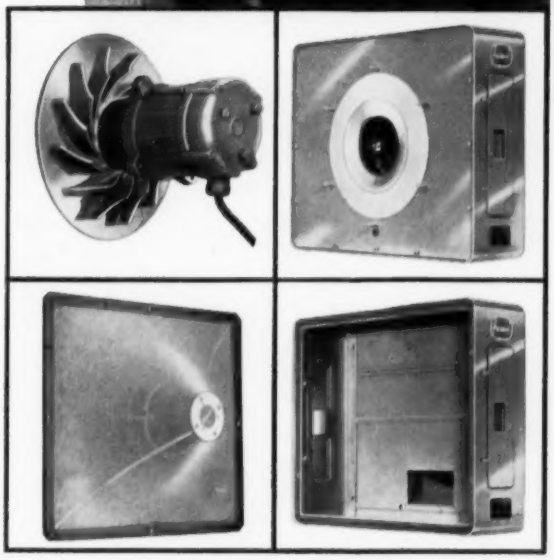
Pneumafil's greater air quantity keeps frames cleaner and free of harmful waste.

IMPROVED YARN QUALITY—

Pneumafil's special "air flow" pattern catches lint before it becomes slubs.

LOWER SPINNING COST—

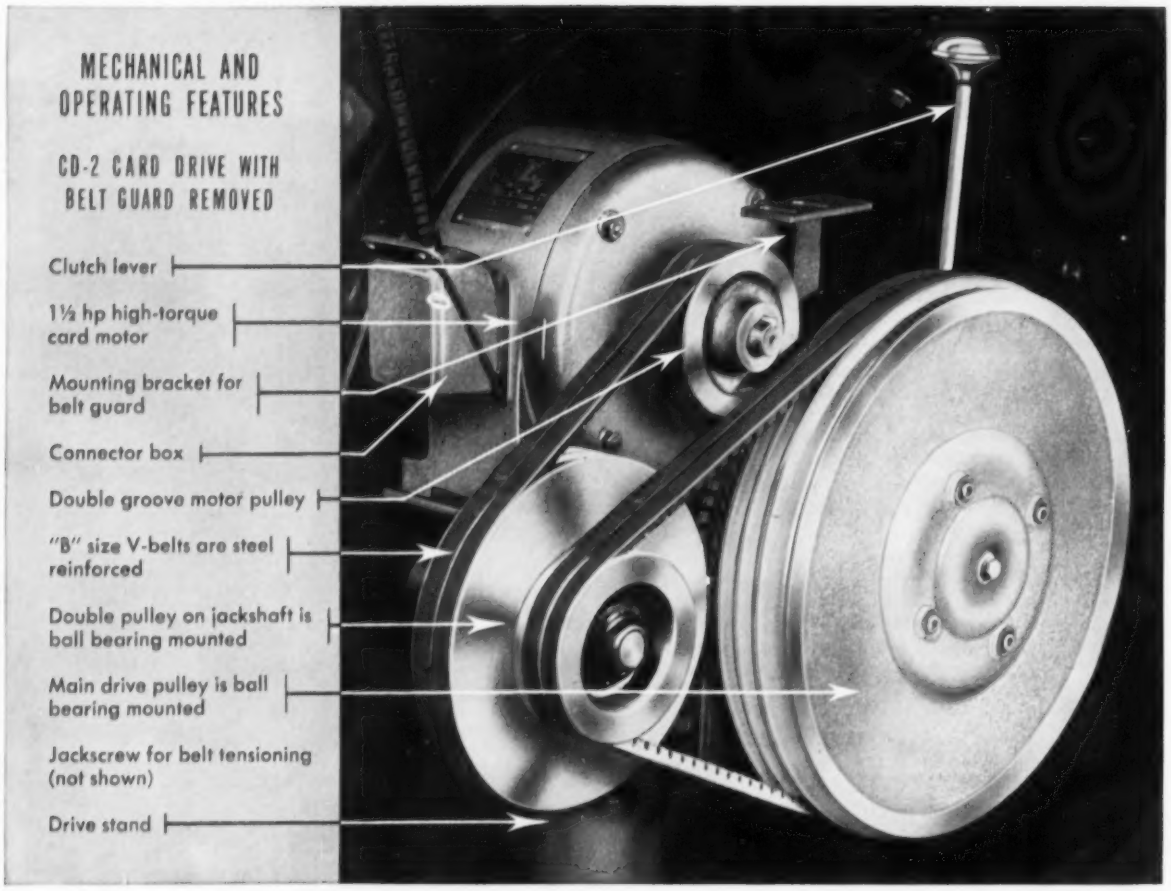
Pneumafil's positive end pick-up and superb cleaning means spinners can operate more sides than ever before!®



PNEUMAFIL CORPORATION
CHARLOTTE 8, NORTH CAROLINA
Atlanta, Georgia — Needham Heights, Mass.

PNEUMAFIL

Pat. & Pats. Pend.—© 1957 Pneumafil Corp.


MECHANICAL AND OPERATING FEATURES
CD-2 CARD DRIVE WITH BELT GUARD REMOVED
Clutch lever
1½ hp high-torque card motor
Mounting bracket for belt guard
Connector box
Double groove motor pulley
"B" size V-belts are steel reinforced
Double pulley on jackshaft is ball bearing mounted
Main drive pulley is ball bearing mounted
Jackscrew for belt tensioning (not shown)
Drive stand

Only the all-new CD-2 Southern States Card Drive offers all these features

THIS WE BELIEVE: The CD-2 individual Card Drive is the simplest, safest, and most efficient drive on the market today. It combines into one unit the features most wanted by mill men when specifying a drive for cotton cards. Here is why:

Finger-Tip Control. No changes in operating procedure. The unit is controlled by a simple clutch lever in both starting and hand stripping.

Full Speed in Seconds. A 1½ hp high torque card motor smoothly brings the card into full operation, seconds after the clutch is engaged.

Safety Engineered. All belts and moving parts are covered. Starting and idling is accomplished by the clutch lever. Stripping is done in the conventional manner.

Rugged Construction. The entire unit is built for heavy-duty service: steel main stand; cast iron jackshaft bracket and main pulley; cast aluminum cover.

Easy Installation. Fits any cotton card. Minimum number of holes to drill in frame. Drive pulley, collar and clutch are preassembled and slip on shaft using existing keyway.

Your Southern States representative will give you all the facts, or you may write direct to our home office. Ask for Bulletin 301-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Shorts and Remnants

(3) reprints of . . . 'Where Will Traveler Speeds End?' (Mar. '57). As subscribers to two copies of your very informative publication we would like to be able to give this particular article greater circulation. . . "

MRS. V. M. PCHELKIN

Chemstrand Corp.
Pensacola, Fla.

" . . . In reading Mr. Paget's article I noted with very great personal interest a number of the points which he mentions . . . this is the first time I have found them so effectively gathered together and co-ordinated in one clearly expressed summary. . . "

R. N. CLEMENTS

Ross Whitehead & Co. Ltd.
Montreal, Que., Can.

Gin Causes Trouble (of course)

"Would you kindly send to my attention five (5) copies of 'Gins Cause Much of Our Trouble—Delany,' (Feb. '57). . . "

HENRY W. SUBER

Plant Mgr.
J. P. Stevens & Co., Inc.
Republic Plants,
Great Falls, S. C.

" . . . We are anxious for all people to read this and would appreciate receiving 50 reprints of the article. . . "

JACK D. TOWERY

Moss-Gordin Lint Cleaner Co.
Lubbock, Texas

" . . . We would appreciate very much getting twenty-five reprints of this article."

JIM WHEELER

Canton Cotton Mills
Canton, Ga.

Dacron & Cotton

"Would you please send about twelve tear sheets 'Blend Dacron and Cotton Fibers' (Jan. '57)"

H. R. HOKE

Union Buffalo Mills
Union, S. C.

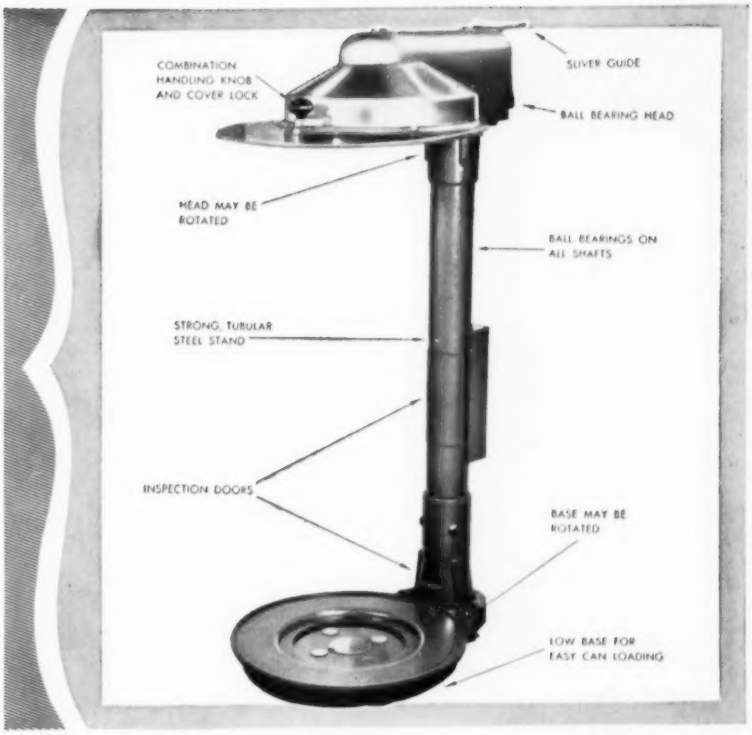
Cannot Afford To Miss

" . . . Some of the articles are so useful that we in the textile industry cannot afford to miss the information published by you."

ANIL BANKER

St. Georges de Beauce,
Que. Can.

(Continued on page 22)


COMBINATION HANDLING KNOB AND COVER LOCK
SLIVER GUIDE
BALL BEARING HEAD
HEAD MAY BE ROTATED
BALL BEARINGS ON ALL SHAFTS
STRONG, TUBULAR STEEL STAND
INSPECTION DOORS
BASE MAY BE ROTATED
LOW BASE FOR EASY CAN LOADING

SOUTHERN STATES NOW OFFERS ITS VASTLY IMPROVED COILERS IN ALL SIZES UP TO 20 INCHES

The greatly improved line of Southern States Complete Coilers and Conversion Units has been expanded to include 16, 18, and 20-inch sizes. Now, no matter what can diameter, or can height, suits your operation best, you can have all of the advantages offered by this premium-quality coiler.

These streamlined, compact coilers are designed for direct attachment to any make of cotton card, left or right hand. Installation is rapid and economical.

Every engineering and operating feature desired by mill men has been included in the Southern States coilers:

Cut tooth gears throughout; self-aligning pillow blocks on upright shaft and on calender roll shaft; precision-ground cast iron calender rolls; fully adjustable can table; and quickly detached coil spring roll-loading device.

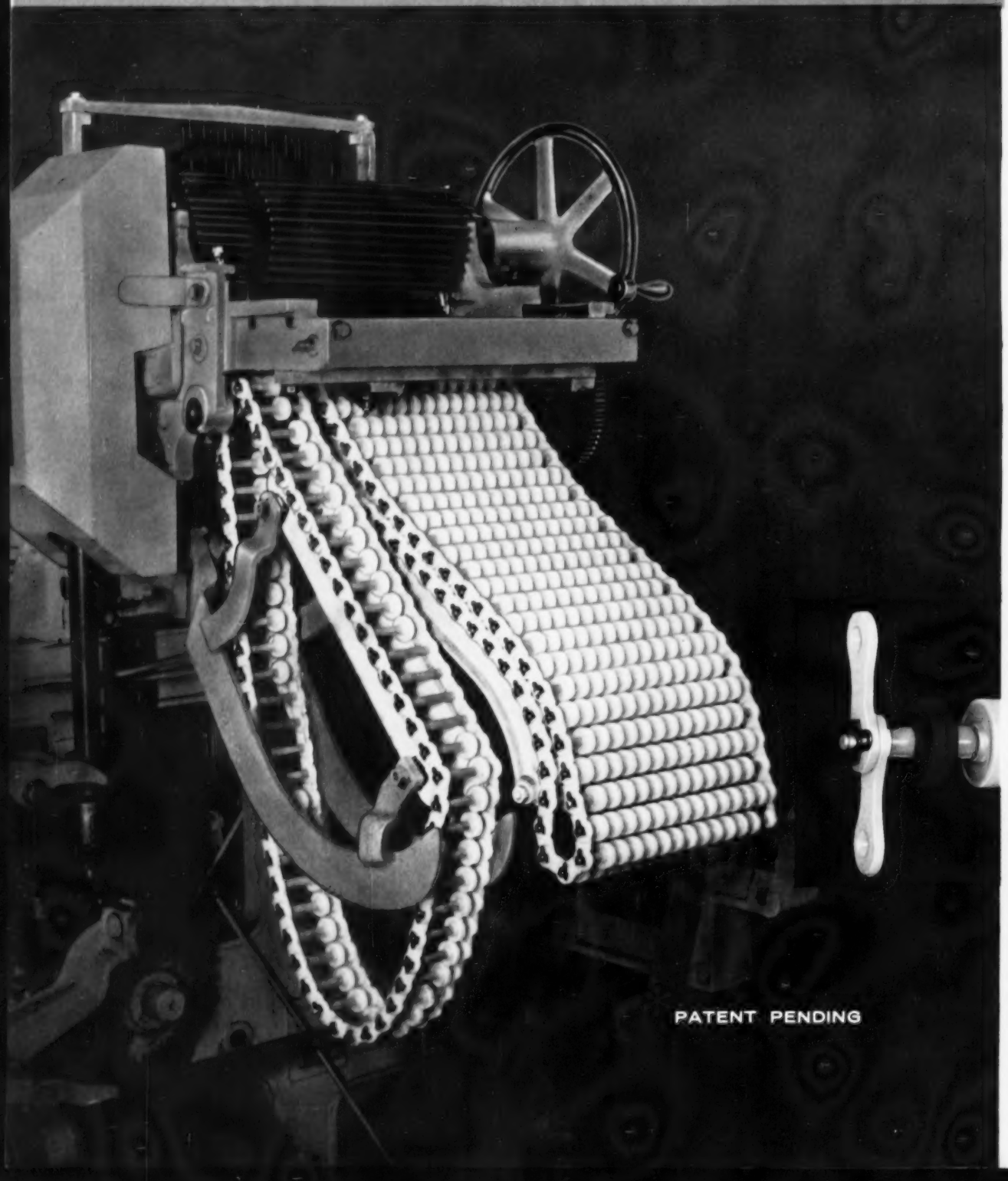
Nothing has been spared to provide mills with the finest coilers that will operate at peak efficiency, require a minimum of maintenance, and give years of trouble-free service.

Get the facts from your Southern States representative, or write for Bulletin 203-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

NEVER BEFORE AVAILABLE!

The ancient art of weaving receives its



FIRST BASIC IMPROVEMENT

since the invention of the automatic loom!

After many months of thorough testing in several prominent textile mills, H. F. LIVERMORE CORPORATION, dedicated exclusively to the making of Improved Loom Parts, *announces*

HFL ENGINEERED

NYLON pattern chain *

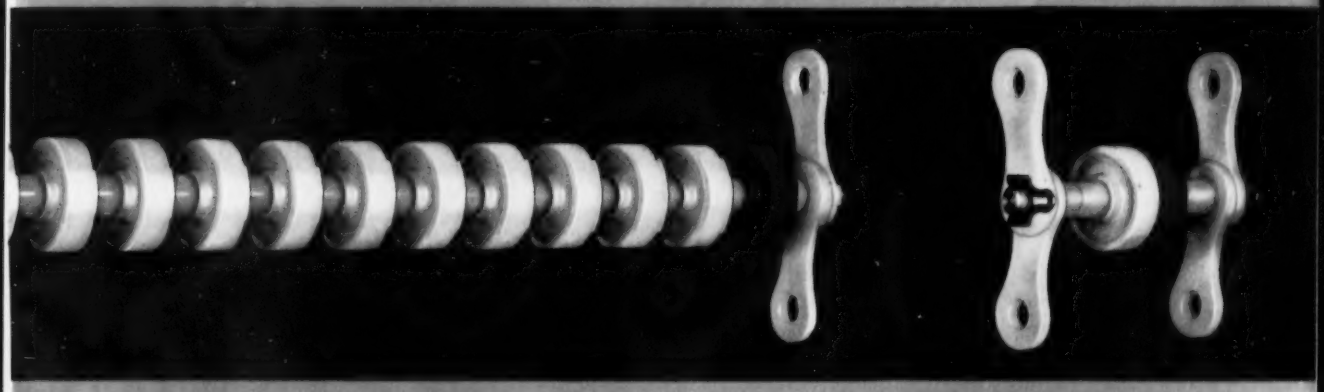
. . . a radical solution to some of the most baffling problems encountered in the weave room.

Note these remarkable advantages:

1. Reduces weight 66%
2. Minimizes friction and wear on links, risers and sinkers
3. Requires no lubrication
4. Maintains dimensional stability of all components of the chain
5. Eliminates skips and smashes
6. Eliminates downtime formerly caused by pattern chain failure
7. Simplifies handling, in pattern changing
8. Permits use of colored risers, for setting up pattern
9. Improves quality
10. Increases production

Again LIVERMORE LEADERSHIP asserts itself!

Brochures upon request



HFL

IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

SKI RESORT IN NEW HAMPSHIRE, LOOKING TOWARD MILE-HIGH MT. LAFAYETTE
NO. 2 IN A SERIES OF AMERICAN LANDSCAPES PRESENTED BY MORTON MACHINE WORKS, INC.

THE OLD BOSS DYER SAYS:

*If you are slashing from sets which contain wet beam dyed yarn, and the damp beams must be stored for sometime prior to use, you can reduce their tendency to become heavy on one side if you rotate them every shift. This is true whether the beams are stored vertically or horizontally.

* The Old Boss Dyer reminded us that sometimes folks get a little tired of everybody trying to sell them something.

O. K. This month we'll forget about MORTON SYSTEM DYEING MACHINERY. Instead we'll try to bring a little of the beauty of nature to you in the form of the landscape on the opposite page.

(Confidentially, though, we are now manufacturing a large quantity of dyeing machinery for our friends in the mills. We would appreciate the privilege of placing your machinery and supply requirements in our production schedule. May we hear from you?)

MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:

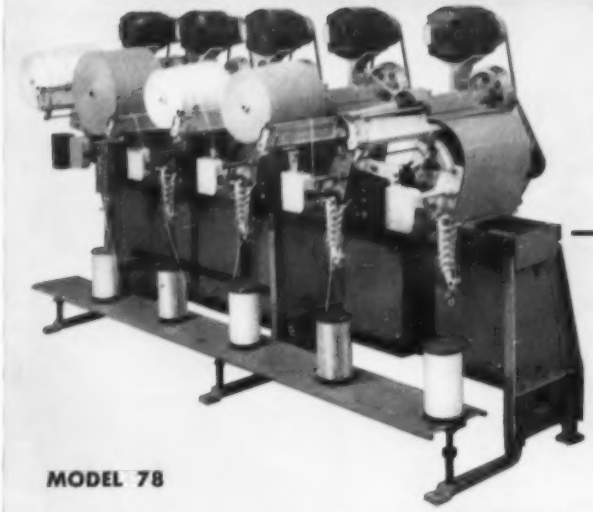
BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES — DYE SPINDLES — TUBE SPACERS — STAINLESS STEEL DYE TUBES CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS.

FOSTER MACHINES *for winding*

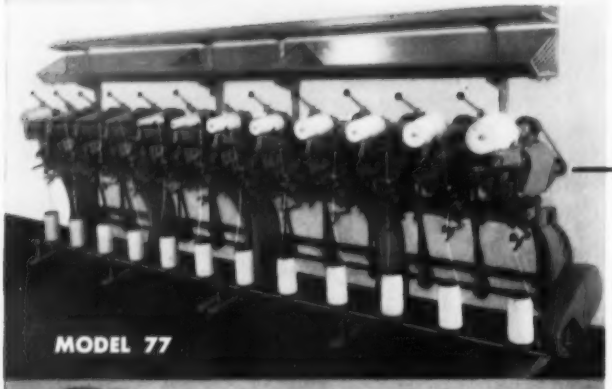
TUFTED TEXTILE YARNS

One is Best Suited For Your Requirements



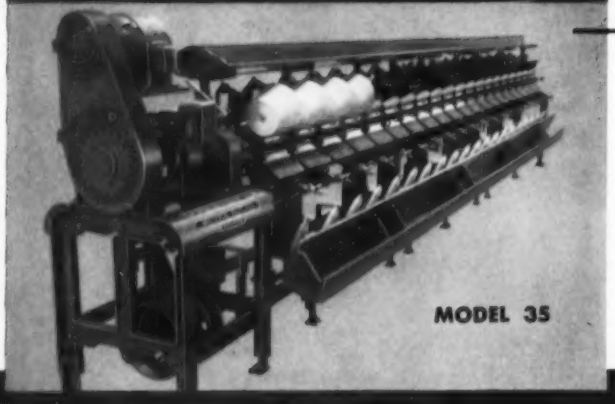
MODEL 78

MODEL 78 – This machine (built in 5 spindle units) produces 8" to 10" traverse, precise wind cones up to 16" in diameter and weighing up to 35 lbs. each. Ball bearing spindles are individually motor driven at speeds up to 800 R.P.M. It has controlled slow start and spindle brake, heavy duty belt gainer with hand wheel adjustment (or positive gear gainer, if desired), positive size stop, electric drop wire and expansion type cone holders, with handle control, for easy donning and doffing. Will wind overend from bobbins or from swifts, reels or unrolling devices.



MODEL 77

MODEL 77 – Built in 6 spindle sections, produces 4" to 8" traverse, precise wind cones up to 10" in diameter and weighing up to 14 lbs. each. Ball bearing spindles, individually belt driven by one motor, run at speeds up to 1100 R.P.M. It has a positive, long wearing package brake and positive solid tapered pulley belt gainer. It will wind overend from bobbins, or from swifts, reels or unrolling devices. 90° build-up from face of cone prevents broken back or under-wound packages.



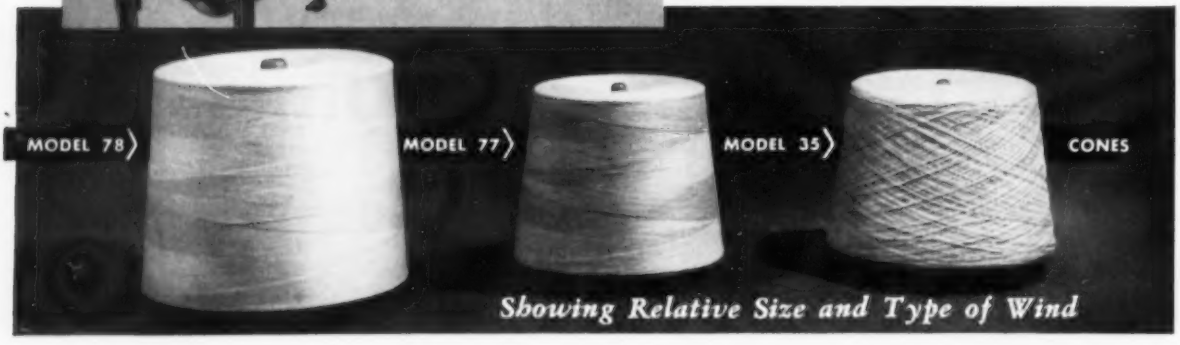
MODEL 35

MODEL 35 – Built in units of 10 spindles to 80 spindles. Produces open wind 8" traverse cones up to 11" in diameter and weighing up to 9 lbs. each. Winding speed from bobbins is from 180 to 250 Y.P.M. and from skeins 100 to 150 Y.P.M. Standard taper cone holders are 7° 22½′ and 3° 51′. Package brakes and disc waxing attachments are extra. Can be equipped to wind from swifts, etc. as well as from bobbins. Write for Model 78 bulletin A-98A, Model 77 bulletin A-99, or Model 35 bulletin B-46A.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C.
Canadian Representative, Ross Whitehead & Company Limited, 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont.
European Representative, Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England



Showing Relative Size and Type of Wind

Another Goodyear First:

V-Belts *with the* Green Seal

stay matched from factory to drive

The Green Seal signifies true dimensional stability. It means that now when you reach for a matched set of V-belts, you can be sure they're matched – no matter how long they've lain on the shelf. And that means longer life and a minimum of down time.

It used to be that only steel-cable V-belts by Goodyear were length stabilized. But now, through the miracle of Triple-Tempering, they've been joined by all the other Goodyear Industrial V-belts.

Triple-Tempering is the exclusive process wherein synthetic cord is carefully brought to the peak of strength and stability by controlled tempering with Tension, Temperature and Time. And this gives you not only *length* stability in storage, but greater shock- and stretch-resistance on the drive.

In addition to 3-T load-carrying members, the Green Seal also brings you "balanced construction." This means each component of the belt is specifically designed to its job to give you cleaner, smoother, longer running which adds up to maximum, trouble-free horsepower hours at minimum cost.

The next time you need V-belts, be sure they're wearing the Green Seal–the mark of a V-belt made with the technical know-how of the world's largest rubber company. They're readily available at your Goodyear Distributor. Or write for details to Goodyear, Industrial Products Division, Lincoln 2, Nebraska, or Akron 16, Ohio.

DIMENSIONALLY STABLE V-BELTS by

GOODYEAR

THE GREATEST NAME IN RUBBER

Green Seal –T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Don't Be An Otspar!

An OTSPAR is an Over-The-Shoulder-Pass-Along-Reader. He is found in nearly every textile mill and can be very annoying, even though his intentions are good.

Get your *own* copy of TEXTILE INDUSTRIES and avoid being jammed in the teeth by a suddenly raised shoulder.

It only costs $3.00 for two years and can help you run your job a *lot* better! Mail this handy coupon today!

W. R. C. Smith Publishing Co.
Dept. T-4B
806 Peachtree St., N. E.
Atlanta 5, Georgia

Please enter / renew my subscription to TEXTILE INDUSTRIES for two years.

Name _____ Title _____

Company Name _____

Address _____

City _____ State _____

☐ Enclosed find $3.00 ☐ Bill me for $3.00

Shorts and Remnants

(Continued from page 17)

Good Housekeeping

"We have read with a great deal of interest the article entitled 'Are You a Good House (Mill) Keeper?' (Feb. '57) . . . and would like your permission to reprint this article in our Annual Yearbook (Shenandoah Valley Textile Executives Assn.)."

JOHN J. BURGER
W. J. Dickey & Sons
Oella, Md.

► Permission gladly granted.

S.O.S.!!

Send in those snapshots or pictures of some sort (cheesecake preferred) or we will run ole S&R's baby picture.

Want to Buy

Eugene De Boer, Pur. Agt. Meadox Weaving Co., Haledon, N. J., wants all data on shuttleless tape and ribbon loom (Nov. '53); **F. S. Foster,** Eng. Dept. Research Div. Callaway Mills Co., LaGrange, Ga., wants call from A&G tenter & dryer rep; **Mack D. Heaton,** Asst. Supt. Columbia (S. C.) Mills, wants name and address of makers of nylon twister travelers; **James Rothrock,** Plant Mgr. Classe Ribbon Works, Anniston, Ala., wants more dope on Dec. '56 ads on American air filters and Bijur lubricating devices; **Richard Kistler,** Dyer, Repel-A-Ram Co., Phila., writes for prices on Ajusto-speed motors (Eaton) and dye jigs (Dealy), both described in Dec. '56; **John F. Woodworth,** Winona (Minn.) Knitting Mills, wants adjustable wire frames for flat pressing tables (sweater bodies); **Geo. H. Carson,** Supt. Weaving, Virginia Mills, Inc., Swepsonville, N. C., wants paint to cover slasher cans to keep yarns from sticking (a commercial shop application); **Juan J. Salzmann,** Salzmann Medias Paris, S.A.I.C. Buenos Aires, Argentina, notes Cluett-Peabody Sanforized ad Feb.—wants to use process on socks and anklets (and we figured everybody wanted socks to stretch). **W. L. Ferguson,** Strathroy (Ont., Can.) Woolen Mills, wants EQ-53 (Feb. '57) for mothproofing woolens. Anybody have any to offer him?

► Anyway, if you don't see what you want, ask for it. And that's our May flowers, and so long.

Personal NOTES

ABOUT MEN YOU KNOW

Newly elected officers of the Appalachian chapter of the American Association for Textile Technology are: **Fred E. Anderson** of North American Rayon Corp., chairman; **W. G. Faw,** Tennessee Eastman Co., Kingsport, Tenn., first vice-chairman; **Dr. Arthur Creswell,** North American Rayon Corp., second vice-chairman; **Harold A. Thompson** and **Dr. Carl Wooten,** both of Tennessee Eastman Co., secretary and treasurer respectively.

Following a period of 39 years with the Underwear Institute, **Roy A. Cheney** who is retiring as president, will be honored at a reception and

Mr. McCabe

testimonial dinner at the group's 91st annual meeting late in April. Mr. Cheney is succeeded as managing director by **Robert D. McCabe,** secretary.

Announcement has been made of the appointment of **P. C. Gregory, Jr.,** general manager of Union Bleachery, Greenville, S. C., as a director of the First National Bank of Greenville.

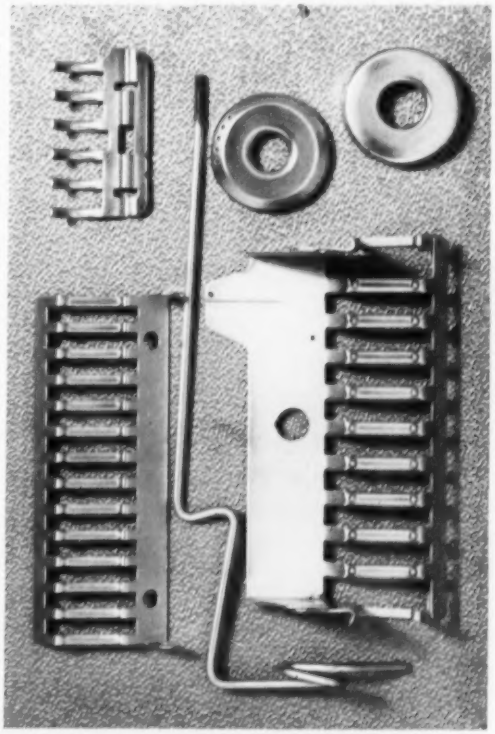
Mrs. John Pope Abney, vice-president and a member of the board of directors of Abney Mills, Greenwood, S. C., has accepted an invitation to serve on the board of trustees of Converse College, Spartanburg. * * * Several employees who retired on April 1 were honored by the company at a dinner on March 22. Among those retiring were: **G. C. Barrett,** overseer of carding - night, Anderson (S. C.) Mill; **W. W. Benson,** assistant to personnel director, Greenwood; **L. L. Hawkins,** assistant overseer of weaving, Brandon Mill, Greenville; **O. L. LeRoy,** outside

(Continued on page 26)

THE FACT that Holland is today a thriving country, although more than one-fourth of its area is below sea level, is mute testimony to the quality of its protective system of dikes. For many centuries the Dutch have waged a never-ending battle by constructing and maintaining an elaborate network of tremendous dikes, some sixty feet high, to protect their low, fertile meadowland from the raging waters of the North Sea.

As Holland's example illustrates, when you have a product worth protecting, it deserves only the strongest, most enduring protection. That's what you get when you use Walton & Lonsbury hard chromium plating in *Polished* or *Satin* Finish.

Textile machine parts need top-quality, longer lasting protection to reduce down-time costs and cut maintenance expense. Walton & Lonsbury hard chromium plating gives you these benefits and more. Try WALHARD on your next hard chromium plating order.



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Be sure you are getting quality. It costs no more and lasts longer. The leading name in textile hard chromium plating . . .

WALTON and LONSBURY

NORTH AVENUE • ATTLEBORO, MASSACHUSETTS

these finishes achieve the finest in wash and wear fabrics

RESIPON® N C

— a modified urea-formaldehyde resin produces a soft, resilient hand on cotton and rayon fabrics, while adding these important "wash and wear" characteristics:

1 — exceptional crease and wrinkle resistance

2 — positive shrinkage control (at lower concentrations than conventional urea-formaldehyde resins)

3 — minimum amount of ironing required

4 — desirable hand for dress fabrics

HYDRO-PRUF®

— when used in conjunction with Resipon N C, the combination of silicone and resin brings wash and wear fabrics to new heights of quality and efficiency. Addition of Hydro-Pruf further improves your fabrics in these ways:

— by enriching the "hand" still further

— by speeding up the drying process (less water absorption)

— by increasing resistance to soil (fabric stays fresher longer)

— by improving tear strength

Finishers find that the compatibility of Hydro-Pruf and Resipon N C simplifies the production of the finest in "wash and wear", resembling the hand and appearance of combed cotton fabrics.

Ask your Arkansas representative for full details, or write for Technical Service Bulletin.

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Need NEW Pickers?

THE DEAD-WEIGHT, CONSTANT-PRESSURE CALENDER RACK RELEASE

This replaces the old friction let-off, and applies dead weight to the calender racks in the same manner as if a weight were hung on a drum-pulley on the calender rack cross-shaft. The disc, which replaces the old friction drum, is firmly gripped by clutch-pads on each side of the disc. The slightest movement of these clutch pads automatically opens them to let the let-off disc move. The disc is therefore constantly holding a dead weight in suspension, and the pressure on the lap is quite uniform.

This makes firmer, heavier laps without calender rack breakage.

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Greenwood, South Carolina

OUTPERFORMS — OUTSELLS
ALL OTHERS COMBINED!

BOTH HEAD AND BASE SWIVEL FOR ADJUSTMENT

SAVES LABOR

EASIER TO INSTALL

TAKES LESS FLOOR SPACE

McDONOUGH
UNIVERSAL CARD COILER
(Patents Pending)

This coiler is its own best salesman. It outsells all the rest put together because it out performs all others. It saves labor by putting more sliver in the can. Its quality construction, including sealed ball-bearings, hardened steel gears, etc., means extra years of dependable service. Ask for free folder with complete specifications.

Let this coiler prove its worth to you in your mill. Have one installed on a

90 DAY TRIAL *Without Obligation*

Since 1890

McDONOUGH POWER EQUIPMENT, INC.
MACHINE & FOUNDRY DIVISION
McDONOUGH, GA., U.S.A.

Personal NOTES
ABOUT MEN YOU KNOW

(Continued from page 23)

overseer, Woodruff (S. C.) Mill; **W. B. Perrin,** vice-president, Brandon Plants, Greenville.

Dan A. Berini, formerly personnel manager at Brookford Mills, Hickory, N. C., has been transferred to Aragon (Ga.) Mills, a unit of United Merchants and Manufacturers, Inc., where he is serving in the same capacity. He succeeds Lewis "Pat" Hallford, who was transferred to manufacturing. **Wilton L. Gossett,** previously quality control supervisor at Aragon, has been promoted to overseer of padding.

James E. Swiney, formerly associated with Fulton Bag & Cotton Mills of Atlanta, Ga., is now actively engaged in executive administration of Bryant Finishing Co., Quidnick, R. I., as vice-president. He is in complete charge of the manufacturing policies

Mr. Swiney

and is also general manager of Millburn Mills and Geo. E. Mousley Novelty Co. **John Dennigan** has assumed sales direction duties, operating from both the New York City and Quidnick offices.

Newly appointed director of sales for Austin Knitting Mills, Albemarle, N. C., is **Lyle Slye,** formerly sales manager for Lambknit knitted wear. **Erskine Purser** has been named superintendent.

I. Lewis Langley has been elected vice-president and a director of Bates Industries, Inc., Lynchburg, Va. He will continue as vice-president of Windsor Industries, Inc., formerly Consolidated Textile Co., Inc. * * * **Frank L. Aultice,** previously overseer of spinning at the Lynchburg division, is now assistant superintendent. **Woodrow W. Harris,** former shift foreman of the filling spinning department, has been named general overseer of spinning. **John Davis,** who

(Continued on page 30)

FOAMGLAS®

the cellular, stay-dry insulation

STAYS DRY—Here's how you can prove to yourself that FOAMGLAS does stay dry. Cut a piece from a FOAMGLAS sample. Place it in water. Note how its hermetically sealed glass cells keep it afloat. Weight it down for days, weeks or longer if you like. Remove the weight and it bobs back to the surface . . . proof that the sealed cells have absorbed no water—still have their original insulating efficiency.

Wet insulation is no insulation . . .

Prove to yourself that FOAMGLAS stays dry!

Send for a sample and test it!

Moisture conducts heat! When an insulation begins to absorb moisture, its efficiency nosedives. It's no longer an insulation.

That can't happen to FOAMGLAS. Every block of this unique insulating material is composed of millions of hermetically sealed glass cells. Each cell is an individual insulating unit . . . and each is watertight. Water and vapor are sealed out to insure constant insulating effectiveness.

In a few minutes, in your own office, *you* can prove to yourself that FOAMGLAS *stays dry*. Send today for a free sample and directions for simple "desk top tests" you can perform, as illustrated on this page. You'll soon see why it pays to insulate floors, walls, ceilings, roofs, piping and equipment with FOAMGLAS. You're assured constant, long-lasting insulating efficiency without the headache and expense of insulation replacement.

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...for the life of the fabric!

FAIRTEX Yarns with Metallized Mylar* never lose their glittering glamour . . . and outlast even the fabric itself!

Specifically developed for use in automotive fabrics, upholstery and drapery materials, mattress ticking, and hosiery, FAIRTEX Yarns with Metallized Mylar* are highly heat resistant, can be safely washed, drycleaned or scoured and do not tarnish.

There's no flaking or breaking of metal when you weave or knit with FAIRTEX.

For economy and efficiency, start using FAIRTEX Yarns with Metallized Mylar* *now* with cotton, wool, silk, linen or synthetics. You get greater yield per pound with smoother, more pliable and more uniform FAIRTEX Yarns.

... lustre that lives ... for the life of the fabric!

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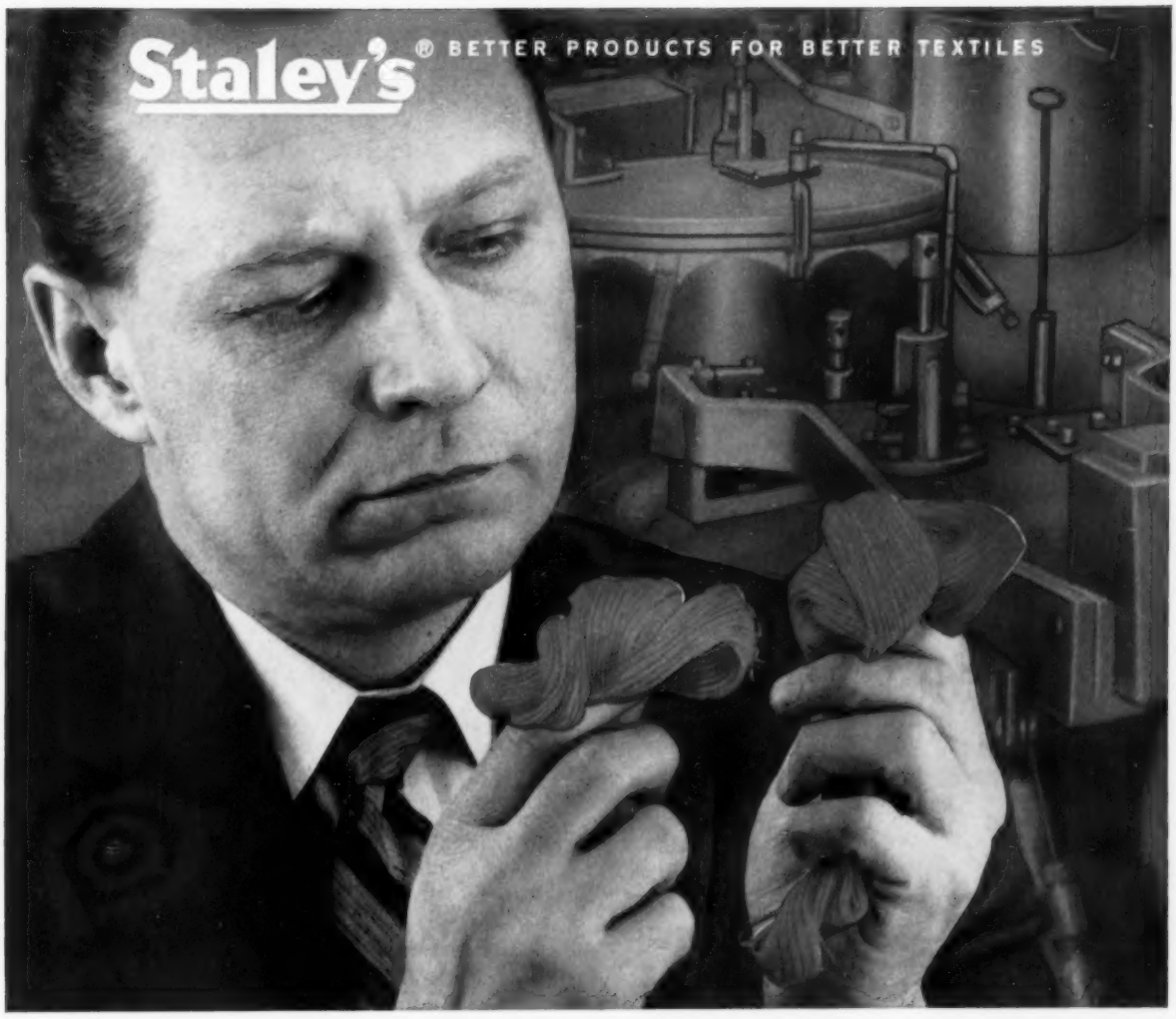

Maintain stability of vat dyes longer at high temperatures with new improved Stadex Dextrin 85

Staley's Stadex Dextrin 85 protects color in reduced solutions 30 minutes or longer at 190° F.

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Stadex 85 is a white dextrin specifically made for this application by an exclusive new dextrinization process that assures you MINIMUM color and UNSURPASSED UNIFORMITY.

Get the facts on the vat dyeing performance now possible using Stadex 85. Call your Staley's Representative at the Branch office nearest you or write today to . . .

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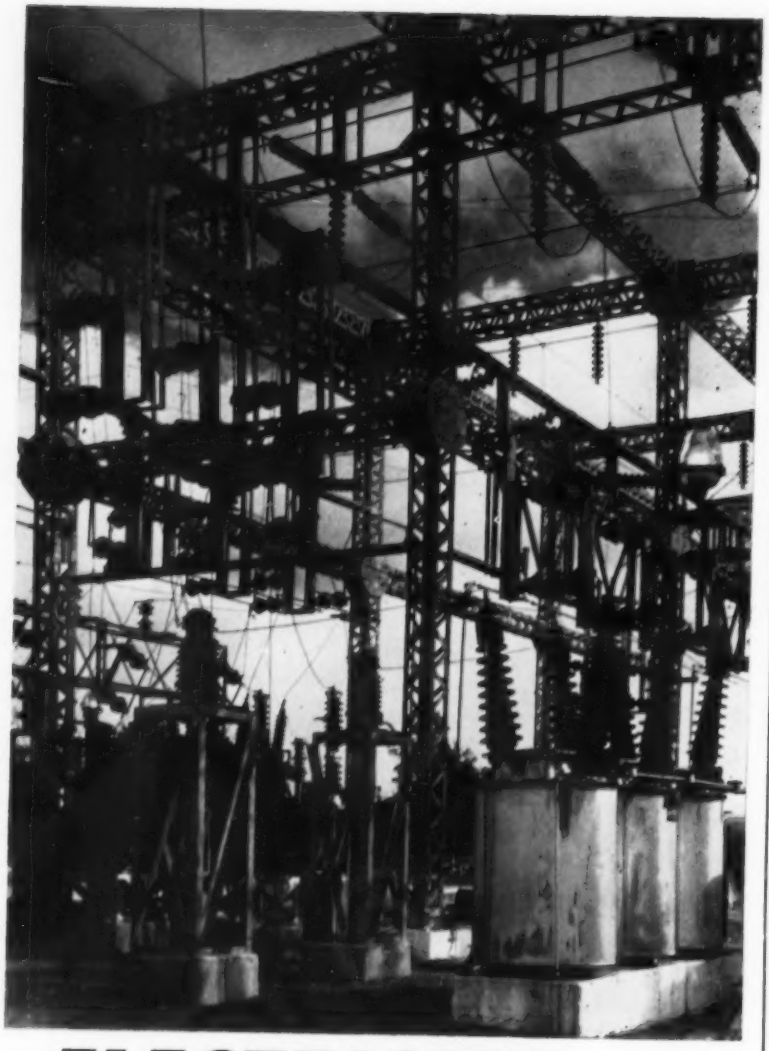

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Electricity is defined as one of the fundamental quantities in nature, but NOBODY knows what it is.

One thing for sure, though . . . it's the lifeblood of your mill. Kind of like a woman—impossible to understand but *absolutely essential.*

That's why it's so important to select the *best* electrical contractor for your mill . . . and this means J. M. CLAYTON CO. You'll hear the name mentioned wherever electrical contracting is being discussed.

SERVING THE TEXTILE FIELD FOR 51 YEARS

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CONTRACTING ELECTRICAL ENGINEERS

ATLANTA, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 26)

was overseer of #2 weave room, has been promoted to general overseer of the weaving department.

Newly elected president of both Bates Manufacturing Co., Lewiston, Maine, and Bates Fabrics, Inc., New York, N. Y., is **Lester Martin,** chairman of the board. Mr. Martin has assumed the duties of Frank C. Mawby who recently resigned as president and a director of both firms, as well as an officer of several Bates subsidiaries. Mr. Martin will also continue as chairman of both companies. Four executives promoted to vice-presidents are: **Harold Kuchman,** in charge of grey goods sales; **Robert A. Coburn,** in charge of converted goods sales; **Charles Riddell,** in charge of home furnishings sales; and **Philip Bernstein** in charge of the tufted division.

At Rockford Textile Mills, McMinnville, Tenn., **Virgil Harris** has assumed charge of all yarn production. * * * Elected president of Beloit Hosiery Co., McMinnville, a Rockford subsidiary, is **Karl M. Whitney,** formerly vice-president in charge of sales, merchandising, and advertising. Mr. Whitney resides in McMinnville, and will spend a major part of his time in the New York and Chicago offices promoting distribution of the Beloit brand of hosiery through retailers and other outlets. Named to the vice-presidency of Beloit was **B. H. Hall,** who continues as assistant secretary and treasurer of the parent company. As vice-president of the subsidiary, Mr. Hall assumes responsibility in finance, costs and accounting control.

Newly appointed assistant to W. W. Pate, Jr., vice-president of Belrug Mills, Greenville, S. C., is **Arthur G. Corkey,** formerly assistant vice-president of American & Efird Mills, Inc., Mt. Holly, N. C.

James A. Goldsmith, Jr., has resigned as president of Hess, Goldsmith & Co., New York, N. Y., a member company of Burlington Industries, and **Harry P. Goldsmith** has been elected president, replacing him. **Raymond F. Clark,** vice-president, has been named executive vice-president; and **William F. Colton**

Cut Your Costs up to 20%

with new Du Pont

"SOLO-MATIC"

Bleaching Program

PART I—

New "Solo-Matic" Process

—a single-stage continuous bleaching system. Easily controlled, it can cut bleaching costs up to 20%. Equal in every way to the performance of multi-stage systems . . . yet saves 50% in equipment.

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Operates at higher temperatures for more effective bleaching. Simplified design minimizes mechanical handling and wear on goods.

PART III—

Du Pont Technical Assistance

Including a complete confidential survey of your operation and recommendations based on these findings . . . assistance in the design, installation, operation and control of the "Solo-Matic" system in your bleachery.

Du Pont's "Solo-Matic" program is the result of many years' experience in the textile industry working closely with bleacheries and with equipment manufacturers. Du Pont does not make bleaching equipment for the "Solo-Matic" program but can put you in touch with manufacturers who produce equipment tailored to your needs.

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If you would like to learn more about the "Solo-Matic" program—how it can help you cut costs and increase efficiency—get in touch with your Du Pont representative or send the coupon below.

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ALBONE® hydrogen peroxide, 35% and 50%

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Personal NOTES
ABOUT MEN YOU KNOW

and **James L. Eskridge** have been named vice-presidents. All the officers are in New York, except Mr. Eskridge who makes his headquarters at Greensboro, N. C. * * * The appointment of **Max Hesse** as a vice-president of Burlington Narrow Fabrics Co. has been announced. With headquarters in New York City, Mr. Hesse is responsible for the company's expanded sales and service program to the apparel, industrial, and accessories manufacturing trades. He was formerly merchandising and product development manager.

Succeeding **James McAden, Jr.,** as secretary of the Southern Textile Association is **Jack Kissiah,** formerly assistant secretary. Mr. McAden resigned as STA secretary and also as editor of the "Textile Bulletin," "The Knitter," and as a vice-president of the Clark Publishing Co. to become public relations director of the S. C. State Chamber of Commerce, Columbia, S. C.

Named president and chief administrative officer of Textron, Inc., was **Rupert C. Thompson, Jr.,** formerly chairman of the executive committee, according to Royal Little who continues as chairman of the board and chief executive officer. **George William Miller** was elected a vice-president. Mr. Miller had been assistant secretary in the legal department.

Greenville (S. C.) Textile Club has named as its president **E. R. Stall, Jr.,** plant manager of Cone Mills Corp.'s American Spinning plant, succeeding Otis Little, superintendent of Monaghan Mill plant of J. P. Stevens & Co. Elected vice-president was **Clyde L. Parham,** superintendent of Abney Mills' Brandon Mill, Greenville, S. C. Other officers were re-elected.

Newly-named executive vice-president of Wilton (Me.) Woolen Co. and its wholly-owned subsidiary, Wilton Sales Corp., is **Richard J. Steffens,** also general manager of Lincolnshire Fabrics, both owned by the Bernard Goldfine interests.

W. R. Steppe, Jr., of Spartanburg, S. C., has been employed as assistant to W. D. Hurst, general manager of the three Georgia mills of The American Thread Co., Inc., located at Dalton, Newnan, and Tallapoosa.

Mr. Steppe
American Thread

Mr. Steppe, previously associated with Saco-Lowell Shops, will reside in Dalton and will be available at all three mills in his new work on quality control, quality improvement, and special projects.

Associate director of research for Textile Research Institute, Princeton, N. J., **Dr. Howard J. White, Jr.,** has been elected director of research, succeeding Dr. Helmut Wakeham, now doing research work in India. * * * Elected at TRI's 27th annual meeting as president and chairman of the board of trustees of TRI was **Walter Regnery,** vice-president, Joanna (S. C.) Cotton Mills Co., succeeding Sydney M. Cone, vice-president Cone Mills Corp., Greensboro, N. C. **William E. Clark,** vice-president and general manager, textile division, U. S. Rubber Co., was

(Continued on page 38)

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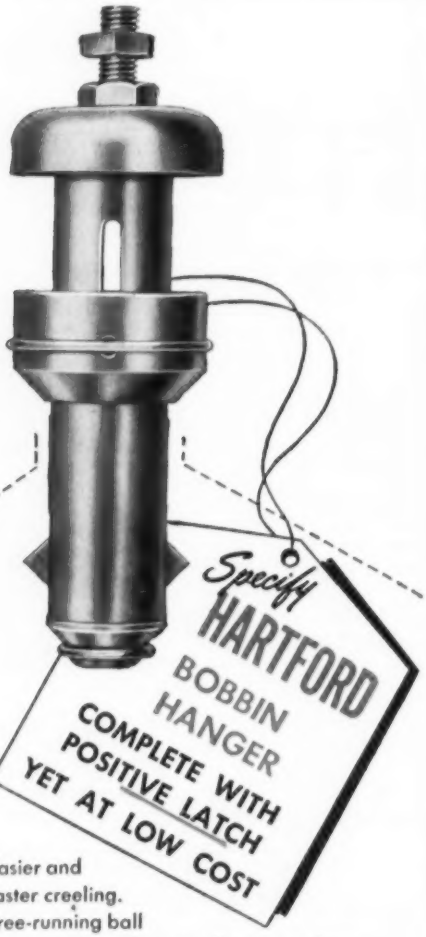

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Easier and faster creeling. Free-running ball construction. Practically no upkeep. Improves spinning. Reduces cleaning problems. Once you examine it you will always specify the Hartford Bobbin Hanger for your creels. Write today.

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Double Check Strap Life

with Gates *TEX-HIDE* Multi-Check Straps

Actual service records prove Gates patented Tex-Hide Multi-Check Straps last twice as long as ordinary straps.

Unlike straps made in one solid band, Gates Multi-Checks are composed of four separate bands.

Multi-Checks minimize adjustments . . . cut "down time"

Tex-Hide — an exclusive Gates material — has a special capacity for absorbing shocks over long periods.

Furthermore, it is unaffected by humidity . . . will not stretch or distort like leather . . . retains its original shape throughout the life of the strap. Thus, adjustments are seldom required.

With Gates patented Tex-Hide Multi-Check Straps you'll get *smoother* loom operation . . . *higher* quality cloth . . . lower maintenance costs.

The Mark of Gates *Specialized* Research

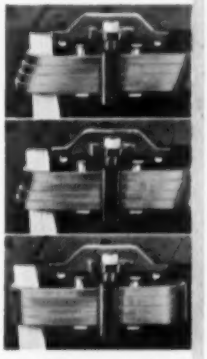
The Gates Rubber Co., Denver, Colorado

GATES Distributors are in the Yellow Pages

See the difference

With the ordinary one-band strap all the shock and wear from the picker stick are concentrated at one point. The strap deforms rapidly; takes a permanent bowed set. The deformed strap checks only on the extreme ends of the pick and return stroke — result is an uneven check.

Now see why the *four bands* of the Gates patented Tex-Hide Multi-Check Strap give smoother checking action . . . insure long life.



1. As the checking action begins, a portion of the picker stick force is absorbed by the top band.

2. As the stick continues its return motion, the second band comes into play, absorbing more of the shock.

3. And the checking action is completed as the third and fourth bands gradually absorb the remaining energy in the picker stick.

The checking action is smooth, even and gentle — wear is distributed across the whole width of the strap. As a result, Gates patented Tex-Hide Multi-Check Straps are lasting twice as long as the best one-band straps available.

TPA-161

Take-up Roll Coverings
Card Bands
Cone and Evener Belts
Spinning Frame Drives

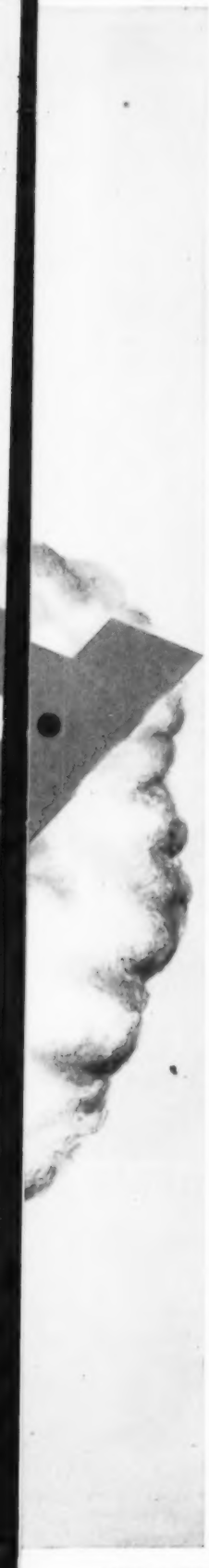
Reversible Pickers

Tex-Hide Harness Straps

Tex-Hide and Vulco Loop Pickers

Tex-Hide, Vulco and Super Tex-Hide Lug Straps

Gates Textile Accessories



AND THEN WE REALLY PUT IT THROUGH THE MILL

. . . to assure top-spinning performance!

Acrilan's toughest customer is right here in the plant.

His standards are the most exacting in the industry. To earn his approval, every pound of Acrilan must have the right answers to questions like these:

How well does it lap? Card? Process on roving and spinning frames? What maximum percentage of fly can be expected? Is the web uniform? What about the quality of the card sliver?

The "customer" is our own pilot mill. . . operating a complete fiber processing system. . . at work 24 hours a day, 7 days a week. . . checking Acrilan performance under the conditions existing in your mill.

This, it should be noted, is *one* stage in a comprehensive philosophy and system of quality control, guiding Acrilan production from initial polymer to final staple cutting or tow packaging. A philosophy that believes product improvement depends on knowing that still more improvement can be made. A system based on control specifications, tolerances and inspection standards previously held unattainable for the newer, man-made fibers.

The Acrilan acrylic fiber produced to these specifications is what we "put through the mill" for equally critical testing in actual performance. The gains—in terms of *your* problems—can be stated most concretely:

- FAR BETTER FINISH CONTROL. . . *with the direct result of improved carding and spinning uniformity.*
- IMPROVED HIGH BULK PROCESSING *. . . for greater assurance of fabric shrinkage control.*
- FLY REDUCTION *so significant it is raising yarn quality, reducing mill costs and waste.*
- UNIFORM DYEABILITY. . . *no change in dye merges for over two years now.*
- STAPLE LENGTH UNIFORMITY *superior to the most demanding needs in the textile field.*

Obviously, these are meaningful advances. . . crucial to efficient, economical mill operation. They demonstrate why mill after mill for the last two years has cited Acrilan as its smoothest-running, top-spinning fiber.

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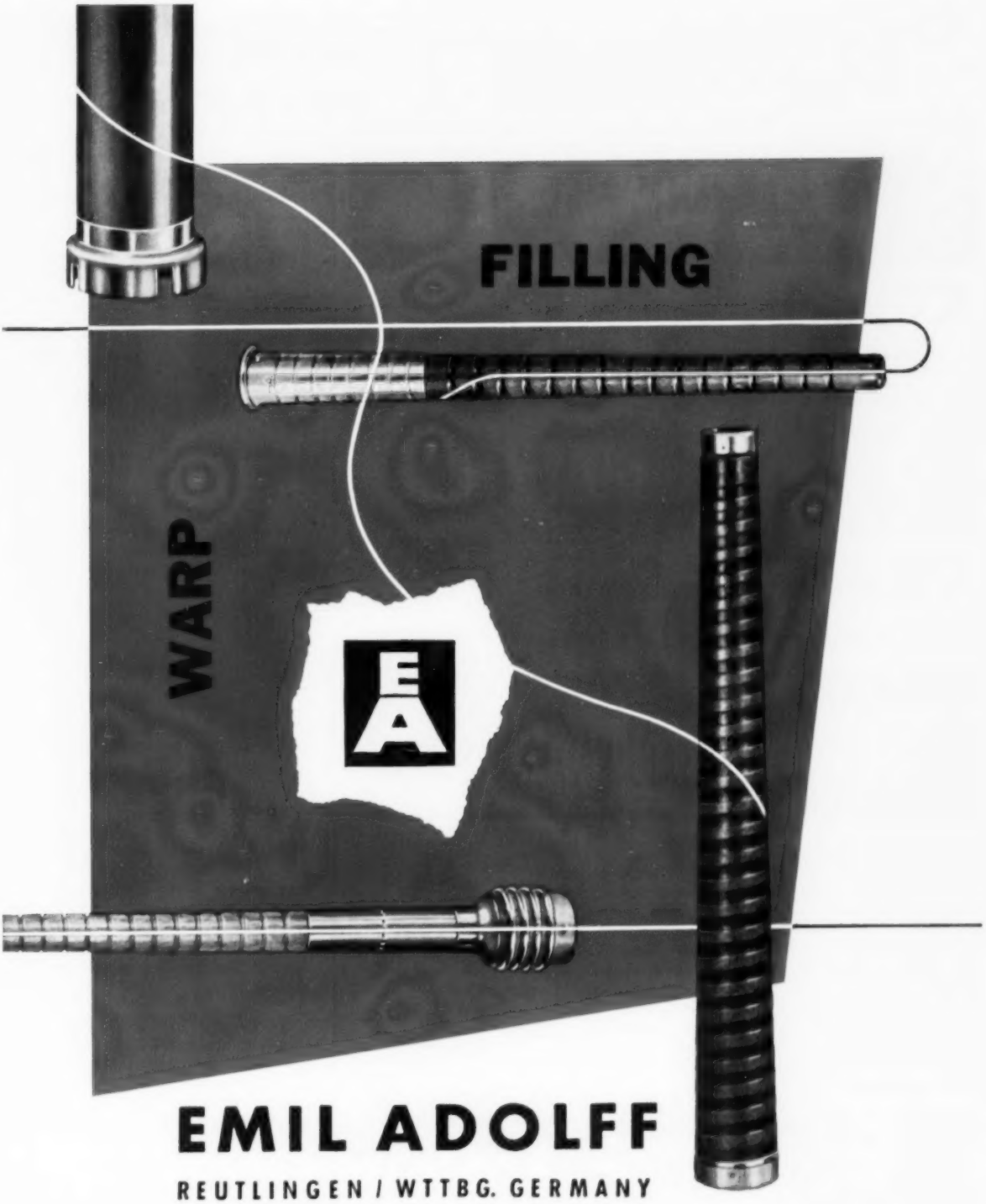

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Clipper *machine-laced joints*
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Clipper *machine-laced joints*
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SAVE DOWNTIME

Clipper Belt Hooks and Lacers make belt joints as strong, smooth and flexible as the belt itself. Exerting pressures up to 45,000 pounds, Clipper Belt Lacers imbed hooks firmly and flush with the surfaces of the belt, making strong, smooth joints that give longer life and save downtime. Clipper Belt Lacers lace belts up to 12 inches wide in one operation, speeding belt replacement and installation and saving downtime. Each hook is separate from the others giving flexibility not possible with other methods . . . saving belt wear and downtime.

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Personal NOTES
ABOUT MEN YOU KNOW

(Continued from page 32)

elected vice-president and chairman of the executive committee, replacing Mr. Regnery. **Dr. Bruce B. Allen,** technical director, textile division, Celanese Corp. of America, was elected treasurer, succeeding Mr. Clark. **Paul C. Alford, Jr.,** was re-elected secretary and also was elected assistant treasurer.

At the Milstead plant of Callaway Mills Co., LaGrange, Ga., **Frank Stewart,** second hand in twisting, has been promoted to assistant overseer, weaving and twisting.

Fabric Research Laboratories, Inc., Dedham, Mass., has announced the appointment of **Richard D. Wells** to the position of assistant director of the laboratories. He will serve in an administrative capacity on research and development projects and will

Mr. Wells

strengthen and expand FRL's services in the fields of technical audits and general surveys, including market surveys. Mr. Wells had been with the Bates Manufacturing Co., Lewiston, Maine, as director of quality control, and director of research and development.

At Edenton (N. C.) Cotton Mills **Philip S. McMullan** has been elected president and treasurer to succeed the late John G. Wood. Vice-president is **Dr. Frank Wood,** and **Richard F. Elliott** is secretary and assistant treasurer.

William B. Crane steps up from managerial assistant at the Greenville (Ala.) division of Riegel Textile Corp. to assume a new position as chief engineer of the glove division at Conover, N. C. * * * **J. W. Jelks** has resigned as personnel director of the Ware Shoals division to accept the position of director of industrial relations with J. P. Stevens

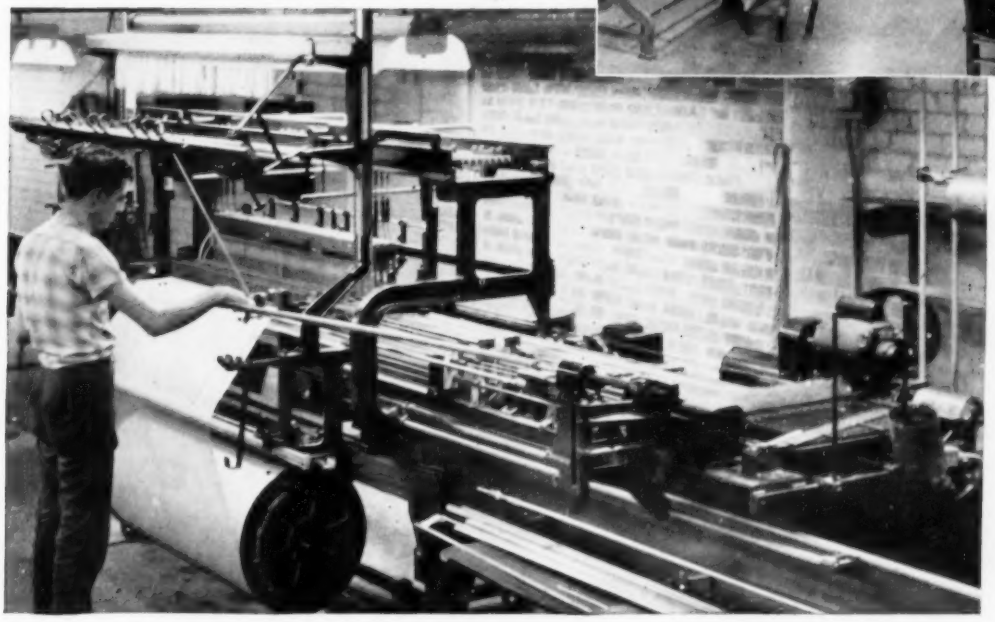
(Continued on page 42)

IF YOU ARE

ENTERING

YOUR **WARPS**

LIKE THIS



WE SUGGEST YOU LOOK INTO THE

BARBER-COLMAN

WARP DRAWING MACHINE

With this machine the time-eating task of drawing-in is speeded up tremendously. A power-driven needle, running at 127 to 230 strokes per minute (depending on the number of weaving elements to be entered), draws each thread in succession through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately *and automatically* for each pick by a sequence of mechanical actions controlled by a pattern strip punched in accordance with the designer's draft. Very substantial reductions of drawing-in costs are possible, particularly on patterned goods such as stripes, plaids, and fancy weaves. This *modern method* of replacing warps has enabled many mills, both large and small, to meet the ever-increasing demands for a greater variety of patterns. *Your Barber-Colman representative is qualified to advise you on possibilities in your mill.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

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P. O. Box No. 63
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For accurate fit...
For sound yarn packages...
For smooth delivery...

use SONOCO precision-made CONES

SONOCO cones are made to fit the winding mandrel accurately. This feature is combined with special SONOCO cone surfaces, developed through extensive research, to produce a cone which permits precision winding. The result is a sound package that will deliver at even tension under high speed working conditions.

SONOCO cones are made in a wide variety of tapers and finishes to suit every kind of yarn. Various methods for yarn identification can also be supplied. For complete information, and help with your yarn packaging problems, consult your SONOCO sales-engineer, or write us direct.

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DEPENDABLE SOURCE OF SUPPLY

Cottons resist wear or wrinkles even more with RHONITE R-1 *and* RHOPLEX

Everybody knows that the best things come in pairs! So our wise little owls are now teaming up RHOPLEX acrylic resin with RHONITE R-1 for better-than-ever cottons or cotton blends. As the fabric requires, RHOPLEX acrylic resin can be added to produce

- ***better*** **wrinkle resistance with *equal* fiber strength**
- **or, *equal* wrinkle resistance with *superior* fiber strength.**

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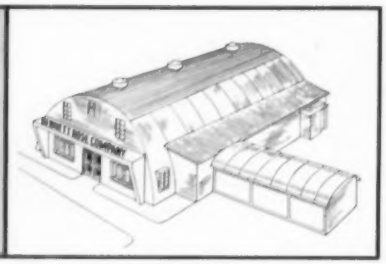


CUT WEAVE ROOM COSTS WITH OUR NEW TYPE BATTERY FILLING EQUIPMENT

This photo shows our equipment in use at one of the large weave rooms in one of the South's most progressive textile plants where they increased plugging from 480 bobbins per hour to 1050 per hour on Quill yarn and from 480 to 860 bobbins per hour on spun yarn. These racks and filling boxes (Patents applied for) will reduce costs of handling filling at the batteries. We can help you cut weave room costs.

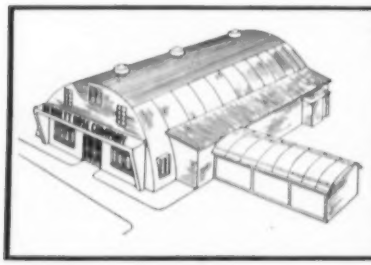
We are equipped for skilled fabrication:

- **Steel**
- **Wood**
- **Fibre**
- **Aluminum**

Let us know your needs

New, sturdy DOFF TRUCK (Patents applied for) used to transport filling from spinning room to weave room with greater ease. Let us help you save handling costs with our New Type Boxes, Trucks and Racks.

FULL INFORMATION ABOUT OUR EQUIPMENT WILL BE FURNISHED ON REQUEST
CALL: SPARTANBURG 3-9223



BENNETT ROSE COMPANY
P. O. BOX 8
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Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 38)

and Company, Inc., in Greenville, S. C. * * * **James A. Hill,** formerly with the B. F. Goodrich Martha Mills at Silvertown, Ga., has joined the firm as senior engineer in the methods and standards department at Trion.

Promotions at P. H. Hanes Knitting Co., Winston-Salem, N. C., included **R. F. Brooks** from secretary and assistant treasurer to vice-president; **E. E. Maddrey** from assistant secretary and assistant treasurer to secretary and assistant treasurer.

Recently elected a director of Pepperell Manufacturing Co., Lindale, Ga., was **Marshall B. Hall,** president of the Trust Company of Georgia.

President of a corporation of 30 Huntsville, Ala., men who have purchased all plant properties of the now inactive Lincoln Mills of Alabama, Inc., Huntsville, is **A. D. Elliott,** former vice-president and general manager of Huntsville (Ala.) Mfg. Co.

OBITUARIES

Leon J. Brandt, Jr., 43, president of Martha Mills, Inc., Asheboro, N. C.

Admiral Richard E. Byrd, 68, explorer and member of the board of Reeves Brothers, Inc., N. Y., N. Y.

Harold A. Green, 42, assistant superintendent of Reeves Brothers, Inc., Eagle and Phenix Mill, Fairforest Division, Columbus, Ga.

Walter E. Hadley, 76, Hancock, N. H., a charter member and first national secretary of the American Association of Textile Chemists and Colorists, and retired superintendent of dyeing, bleaching, and mercerizing of Standard-Coosa-Thatcher Co.

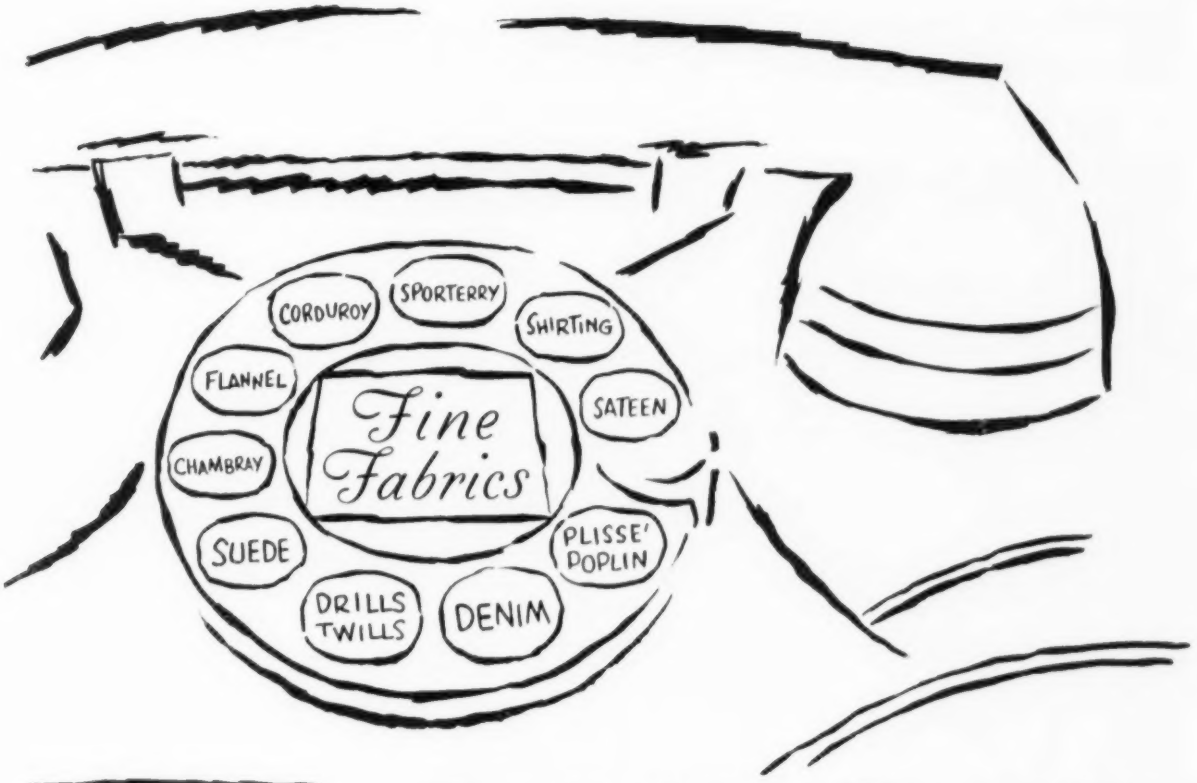
Alexander F. Laube, 69, retired New Jersey sales representative for Sandoz Chemical Works.

Claude L. McGhee, 77, secretary-treasurer of Franklinton (N. C.) Hosiery Mill.

Joseph Schmitz, 81, founder of Universal Dye Works, Philadelphia, Pa.

Adrian L. Shuford, Sr., 72, senior adviser, Riegel Textile Corp., Conover, N. C.

Clarence S. Siegfried, 75, president of the Deisher Knitting Mills, Kutztown, Pa.



Call for Quality

The lines are busy with calls for Quality—more and better things to satisfy the needs of all. It applies to textiles just as it does to all the other products of our economy. The public demands a degree of excellence in cloth which is possible only when skill is coupled with teamwork throughout the process of converting raw cotton to fine fabrics. The skills of the Cone employees, combined with progressive research, have made the Company's trademark a symbol of Quality for more than half a century.

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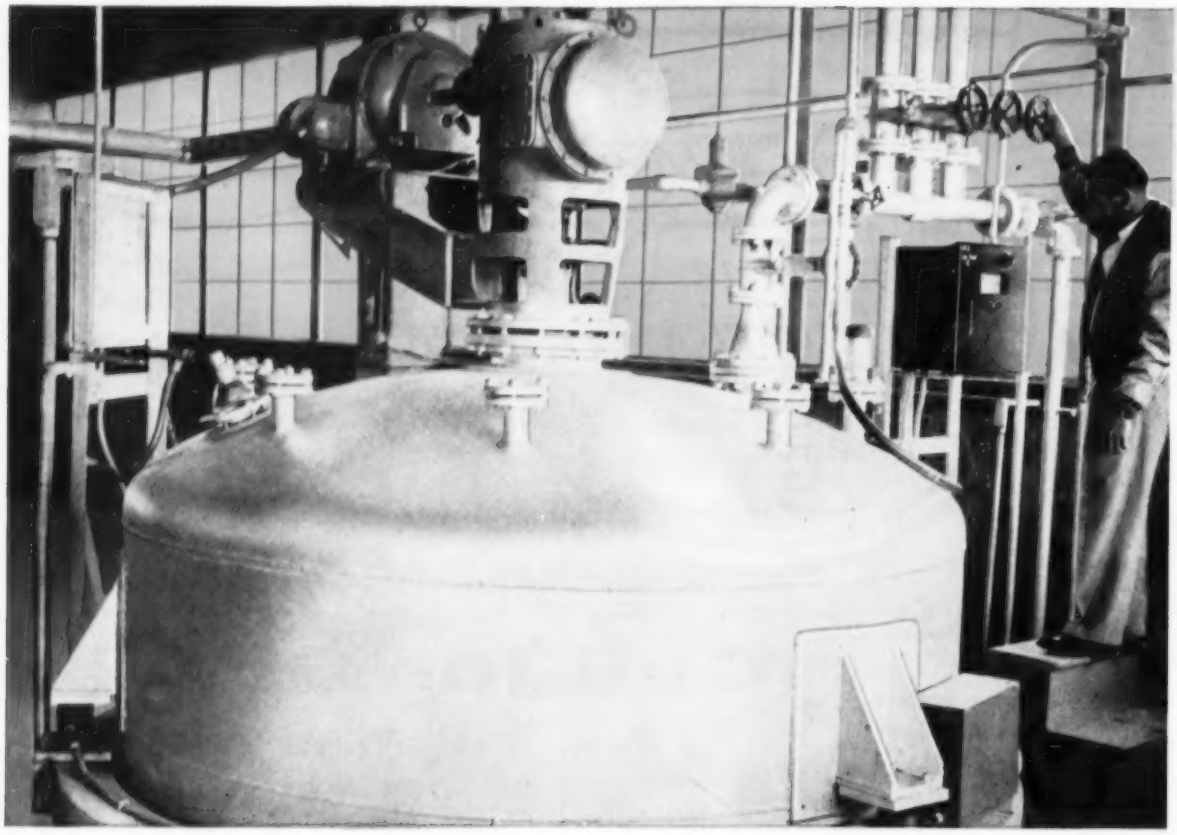
Naugatuck LOTOLS*

READY-FOR-USE LATEX COMPOUNDS

(Photo courtesy Baldwin Lima Hamilton Corp.)



He's thrown away the measuring can

MODERN 4000-gallon latex compounding tanks, continuously weighed by means of electrical load cells, permit each ingredient to be added directly from storage *with precise measuring accuracy.*

Such equipment in our strategically located plants assures LOTOL users that each batch, each shipment, of these custom-compounded latices will be "just what the doctor ordered" for *their specific use...on their equipment.* It also assures them of speedier service in filling their orders. Both are important considerations in keeping production running smoothly in paper mills, textile mills and carpet mills.

Whether you buy natural or synthetic rubber latex, plastic latex or ready-to-use LOTOLS, order from NAUGATUCK CHEMICAL, the name that means *most* in LATEX... *most* in uniform quality... most in application engineering assistance!

*LOTOL is Naugatuck's registered trade mark for its ready-to-use latex compounds formulated for your specific application on your equipment.

United States Rubber

Naugatuck Chemical Division

Naugatuck, Connecticut

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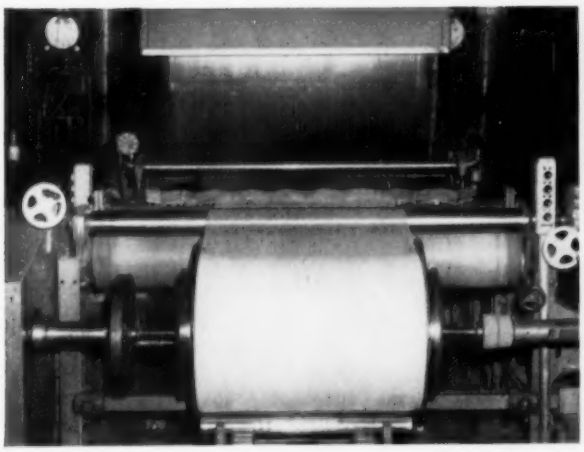
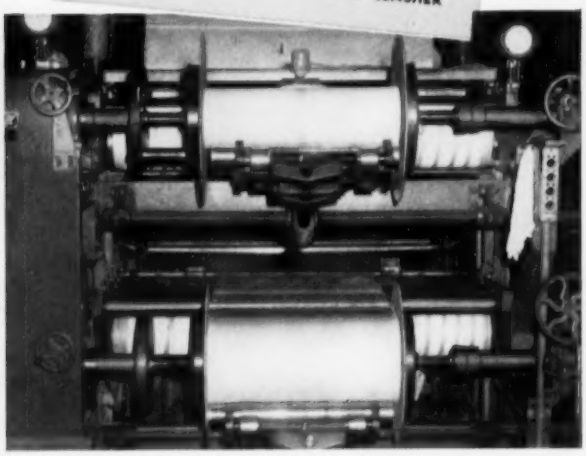
VICKERS® HYDRAULIC SLASHER DRIVES

WIND BETTER LOOM BEAMS FASTER

For

ANY TENSION • ANY SPEED • ANY SET
ANY YARN • ANY DIAMETER • ANY WIDTH
ANY HORSEPOWER • ANY DOUBLE HEAD
ANY SINGLE HEAD • ANY SLASHER





West Point Foundry & Machine Company single and double head slashers with Vickers Hydraulic Drives.

This is the slasher drive that can really meet *all* your needs . . . flexibility is sufficient to cover all known conditions of slashing. Now your yarn and your beams can be wound exactly the way you want them . . . and quality is always the same.

Design is unusually compact . . . the drive requires no floor space outside of the slasher head end frame dimensions. Automatic overload protection and dependability are important features. Completely sealed and inherently self-lubricated, there is no need for oiling and greasing.

ONLY VICKERS HYDRAULIC SLASHER DRIVES HAVE ALL THESE ADVANTAGES:

1. Better Tension Control
2. Complete Speed Range
3. Smoother Acceleration and Deceleration
4. Selective Creep Speeds
5. Better Response
6. Reduced Operating Costs

For further information about Vickers Hydraulics on slasher drives, write for Bulletin 55-71. For information regarding application of Vickers Hydraulics to general textile machinery, write for Bulletin 54-66.

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1554 • Detroit 32, Michigan

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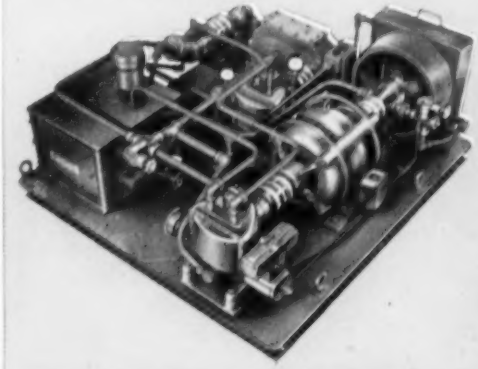
IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto

STANDARD VICKERS HYDRAULIC SLASHER DRIVE PACKAGE



7779

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

Smooth drafting action of Accotex Aprons gives good yarn control, top-quality spinning

Top-quality spinning—shift after shift—depends on a lot of different things. The right kind of apron, for example, can make a big difference in yarn quality. That's why hundreds of mills have standardized on Armstrong Accotex® Aprons.

There are many good reasons for this. One of the most important is that these aprons—like the equipment they run on—are precision made. They're specially engineered to provide the smooth drafting action and good yarn control essential to high-quality spinning.

The special synthetic rubber compounds used in Accotex Aprons are another reason. In the Accotex NO-7075 black-and-white apron, for example, there are different rubber compounds on the inner and outer surfaces.

The white inner face has a relatively low coefficient of friction to avoid buckling and jamming at the pin, yet it has enough friction to grip the drive roll firmly to assure smooth, even drafting. Special electrolytes added to this compound help to prevent the accumulation of loose fibers inside the apron.

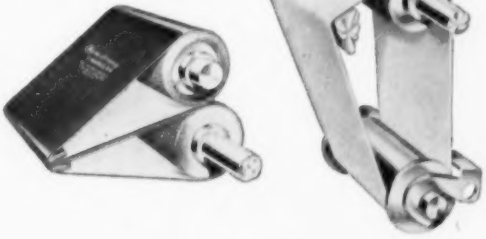
The black outer surface is specially compounded to resist abrasion and tearing and has sufficient friction to keep the top apron spinning smoothly without slipping.

There's an Armstrong Accotex Apron specially designed to give you top-quality spinning on any type of single- or double-apron high-draft frame. If you're not already using Accotex Aprons, ask your Armstrong man to arrange a test next time he calls. Prove in your own mill what a big difference in yarn quality these aprons can make.

For more information on Accotex Aprons or other Armstrong textile supplies, write to Armstrong Cork Company, Industrial Division, 6405 Ivy Street, Lancaster, Pa.

Armstrong ACCOTEX APRONS

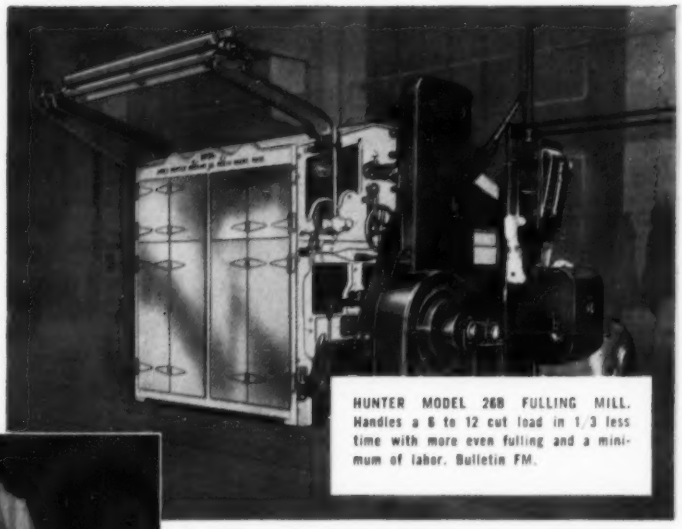
. . . used wherever performance counts



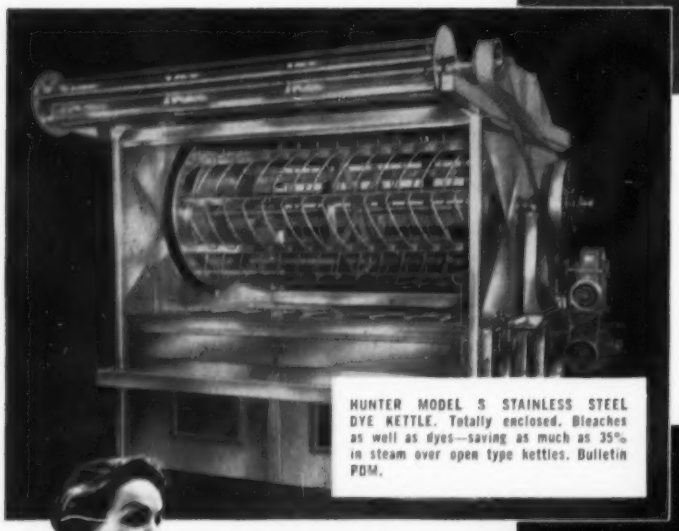
Accotex NO-7075 Aprons give you long, trouble-free operation on all types of double-apron frames. Superflexible NO-750 Apron insures smooth drafting action and good yarn control on single-apron equipment.

HUNTER

Wet Finishing Equipment Is Big In The Profit Picture At LEBANON MILLS



HUNTER MODEL 26B FULLING MILL. Handles a 6 to 12 cut load in 1/3 less time with more even fulling and a minimum of labor. Bulletin FM.

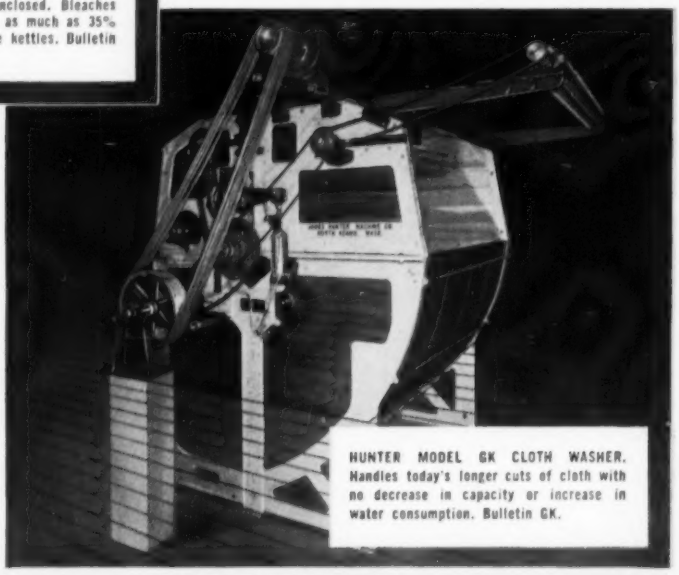


HUNTER MODEL S STAINLESS STEEL DYE KETTLE. Totally enclosed. Bleaches as well as dyes—saving as much as 35% in steam over open type kettles. Bulletin PDM.

For Wool, Cotton, Blends And ALL Synthetics...

Hunter Wet Finishing Machines, at Lebanon and leading mills everywhere, are proving their importance in the modern textile plant's economy. Counterbalancing mounting labor and materials costs, their speed, efficiency and quality output actually make bigger profit margins possible.

HUNTER IS IN THE PROFIT PICTURE WITH A COMPLETE LINE OF DRYING AND FINISHING EQUIPMENT FOR *EVERY* FABRIC REQUIREMENT!



HUNTER MODEL GK CLOTH WASHER. Handles today's longer cuts of cloth with no decrease in capacity or increase in water consumption. Bulletin GK.

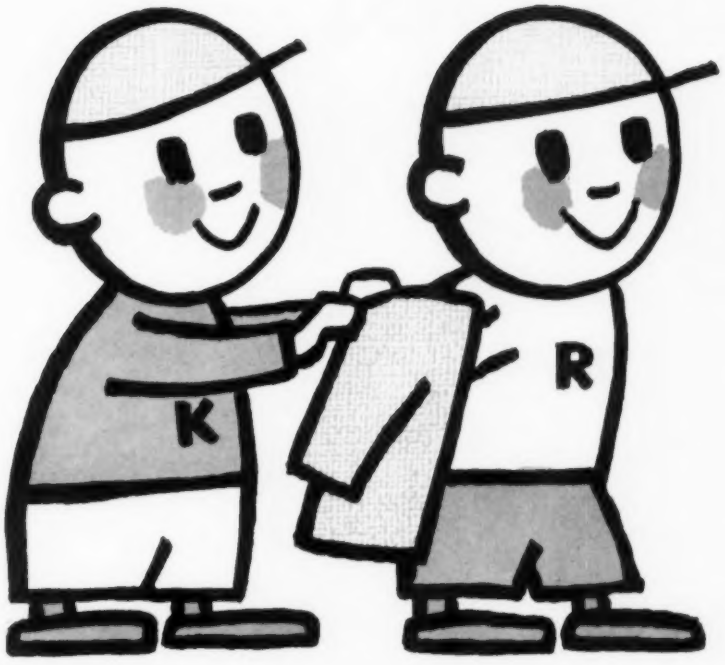
JAMES HUNTER MACHINE COMPANY

BUILT BY HUNTER ...IT'S DEPENDABLE

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair ... rapid parts delivery



they are easy to put on

Gelva KR emulsions on cottons and synthetics eliminate the expense and inconvenience of solvent treatments. They are aqueous dispersions of water-insoluble polymers.

Gelva KR's are polyvinyl acetate emulsions which meet an extremely wide range of application requirements and offer an excellent choice as to viscosity, particle size, flow characteristics, drying time, film-forming properties, and compounding stability.

Gelva KR's are made and sold only by Shawinigan Resins Corporation. Shawinigan pioneered the production of polyvinyl acetate resins in 1929 and evolved the Gelva KR emulsions in 1944. For continued progress in research, production and application of polyvinyl resins for the textile industry—look to Shawinigan. For full details write Shawinigan Resins Corporation, Department 4205, Springfield 1, Mass.

SALES OFFICES: ATLANTA CHICAGO LOS ANGELES
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GELVA® KR ***emulsions for textiles***

SHAWINIGAN RESINS
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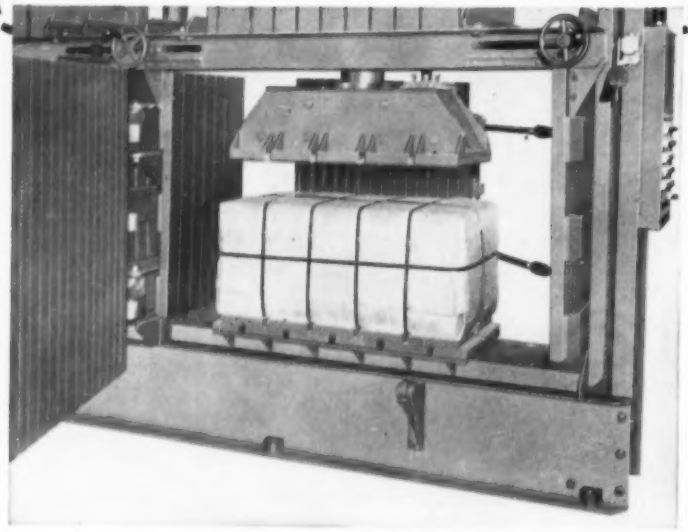
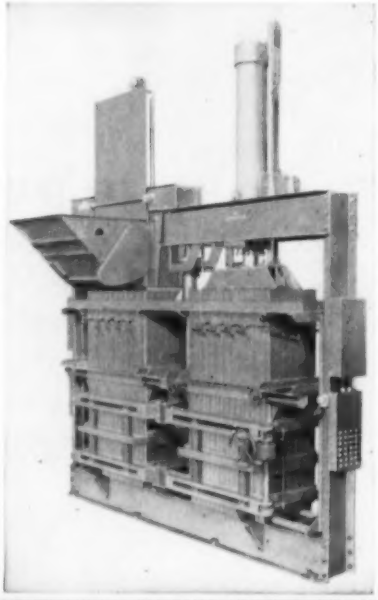
Continental's NEW Automatic BALING PRESS



for high density compression of all types of fibrous materials —

natural and synthetic fibers, wool and leather, scrap materials and findings, paper board, sheet pulps, bagging and wrapping materials. Push button operation, automatic bale weight control, bales easily accessible and readily removed. Currently in use by major textile and synthetic producers in U. S. and abroad.

For full details, call, wire or write your nearest Continental office.



CG-5720

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
BIRMINGHAM, ALABAMA

CGC ATLANTA CLEVELAND DALLAS KNOXVILLE MEMPHIS MOBILE NEW YORK 17

What the TEXTILE MILLS are doing

Botany Mills, Inc., has acquired the facilities, as well as affiliated companies, of Premier Knitting Co., Blackwood, N. J., producers of synthetic and cashmere sweaters. There will be no changes in the management or policies of Premier. Irving Saltzman will continue as board chairman, and Arnold A. Saltzman will continue as president of Premier.

Burlington Hosiery Co., member of Burlington Industries, Inc., has begun publishing a four-page newspaper for its employees in the Burlington, N. C., area. Printing will be done in the local print shops of the company.

The Pensacola, Fla., plant of **The Chemstrand Corp.,** has established a new world's safety record for textile plants by surpassing the previous record (set by Forstmann Woolen Mills in 1952) of 13,624,000 manhours without a lost-time injury. There are 4800 employees at Pensacola.

The production facilities of **Caledonia Dye Works,** Philadelphia, Pa., have recently been increased by the addition of two pieces of tape dyeing equipment. The firm processes narrow fabrics, does skein, warp, and perforated-tube dyeing.

A group of Carrollton, Ga., citizens has purchased **Carroll Mills** of that city.

Negotiations are complete for the purchase of one of the two plants of Schlegel Mfg. Co., Rochester, N. Y., by **Commercial Controls Corp.,** a subsidiary of the Friden Calculating Machine Co.

In order to expand its own activities, and those of Cortley Fabrics, Inc., in the field of style fabrics, **Cone Mills, Inc.,** is acquiring controlling interest in that firm and its affiliates, Clarion Textile Corp., and Careloom Cottons, Inc., converters of dress and sportswear.

The property and building (66,000 sq ft) of Dixon Mills, Gastonia, N. C.,

(Continued on page 210)

How To Buy Bargains In Dyestuffs!

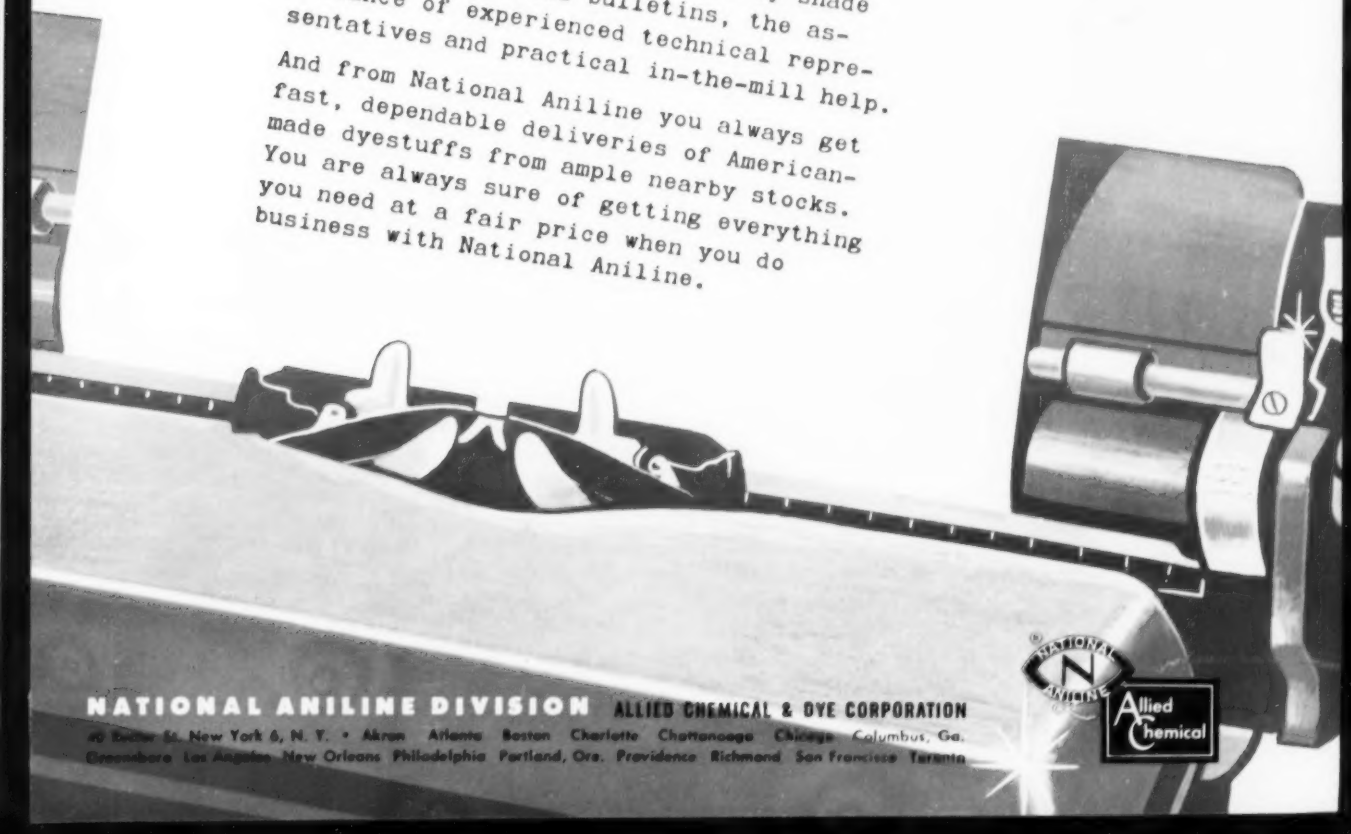
One kind of "bargain" gives you less than you need and splits the difference with you -- but not always in your favor!

A real bargain includes everything you should have in product and service -- at a fair price. That's exactly what you get from National Aniline.

National Aniline assures you of quality that doesn't vary from sample to shipment because our Standardization Control Laboratories guard uniformity so closely.

From strategically-located Application Service Laboratories coast-to-coast, National Aniline gives you prompt service on matches. This is augmented by shade cards and technical bulletins, the assistance of experienced technical representatives and practical in-the-mill help.

And from National Aniline you always get fast, dependable deliveries of American-made dyestuffs from ample nearby stocks. You are always sure of getting everything you need at a fair price when you do business with National Aniline.



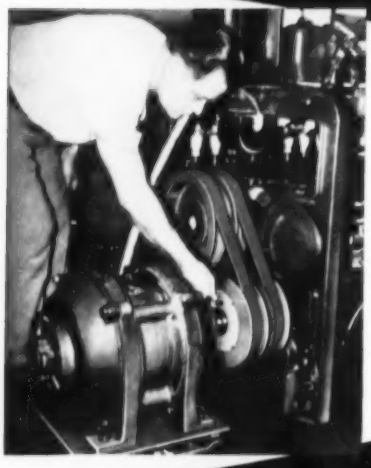
NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION

40 Rector St. New York 6, N. Y. • Akron Atlanta Boston Charlotte Chattanooga Chicago Columbus, Ga. Greensboro Los Angeles New Orleans Philadelphia Portland, Ore. Providence Richmond San Francisco Toronto

NATIONAL ANILINE Allied Chemical

Now--

Pre-set the Pitch Diameter



COMPONENTS OF
DODGE SPINNING FRAME DRIVE

- Variable Sheave with Automatic Pitch Diameter Gage
- Taper-Lock Companion Sheave
- Slide Motor Base
- Dodge Sealed-Life Belts

No more "cut and try" with the new Dodge Variable Sheave

An automatic Pitch Diameter Gage, graduated in tenths of an inch, is mounted on the outside flange of the new Dodge Variable Sheave. A spiral line on the hub intersects with the gage dial as the flanges are moved in or out. Pitch diameter is read directly on the dial.

Quickly . . . accurately . . . easily . . . you get the pitch diameter you want with a one point adjustment. The variable sheave locks as a unit when tightened on the shaft, utilizing the Taper-Lock principle.

Single or double strand drive

The Dodge Variable Sheave is available for both single or double strand drives — utilizing R-Section Sealed-Life V-Belts in the single or double strand and W-Section in the single strand only. The new, higher ratings of these belts, which contribute to the larger load carrying capacity of the Dodge Variable Speed Drive, open new opportunities for drive economy — both in initial cost and in maintenance. All components — the new sheave, companion sheaves, belts and motor base — are available from stock. Write for full details.

DODGE MANUFACTURING CORPORATION, 3500 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

Call the Transmissioneer, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new cost-saving methods. Look for his name under "Power Transmission Equipment" in your classified phone book.

CUTLER-HAMMER THREE-STAR MOTOR CONTROL BRINGS PEAK PERFORMANCE TO COTTON CARDS

Throughout the textile industry progressive mills are converting their cards from dangerous, cumbersome line shaft drives to modern, efficient, individual electrical drives. These modern card rooms are cleaner, safer and many times more productive. Consistently mill after mill specified C-H control while modernizing . . . knowing Cutler-Hammer Three-Star Card Control would assure them the dependability, safety and peak performance so vital.

Cutler-Hammer Three-Star Card Control is a complete control unit in a single lint-tight enclosure. Convenient pushbutton-control starts and stops the card in either direction. An externally operated reversing switch selects the direction of rotation . . . forward for carding, reverse for grinding; but for safety-sake the card cannot be reversed while running. The famous C-H eutectic alloy overload relay is your assurance of complete, dependable motor overload protection. Special sensing coils allow the motor to start the high inertia load, but will not permit the motor to operate on a damaging running-overload.

These magnetic, across-the-line starters are available in three types; starters only, fusible combination starters, and circuit breaker combination starters. All feature C-H time-tested vertical contacts which never require maintenance with all normal use. The fusible combination starter includes a contactor type disconnect switch with an externally operated handle. The circuit breaker combination starter also includes an external operating handle which can manually trip the breaker. Multiple padlocking of the operating handle in the "off" position guarantees safe card maintenance...no unauthorized operation.

For complete information see your Authorized Cutler-Hammer Distributor or write today on your company's letterhead for the new Pub. EL-115, Cutler-Hammer Motor Control for Textile Machines. CUTLER-HAMMER, Inc., 1456 St. Paul Ave., Milwaukee 1, Wis.

INSTALLS EASIER—WORKS BETTER—LASTS LONGER C-H Three-Star Card Control is perfect for every cotton card. Select either the fusible or circuit breaker type combination card control, or starter only.

CUTLER-HAMMER
MOTOR CONTROL
C-H

YOUR GUIDE

to

SYNTHETIC DETERGENTS with SUPERIOR WETTING, PENETRATING and EMULSIFYING PROPERTIES

All the products listed here are available in convenient, easy-to-use, easy-to-measure forms and in convenient sizes.

ORVUS

PRODUCTS

ORVUS K LIQUID
. . . a modified alkyl sulphate.

ORVUS AB GRANULES
. . . neutral 40% sodium alkyl sulphonate type.

ORVUS EXTRA GRANULES
. . . basically sodium alkyl sulphate built with complex phosphate.

ORVUS HYTEMP GRANULES
. . . blend of anionic synthetic detergent with complex phosphates. A highly effective dispersing agent, with an "extra" to give whiter whites.

ORVUS ES PASTE
. . . a modified alkyl sulphate.

ORVUS WA PASTE
. . . Alkyl sulphate.

Kyro EO

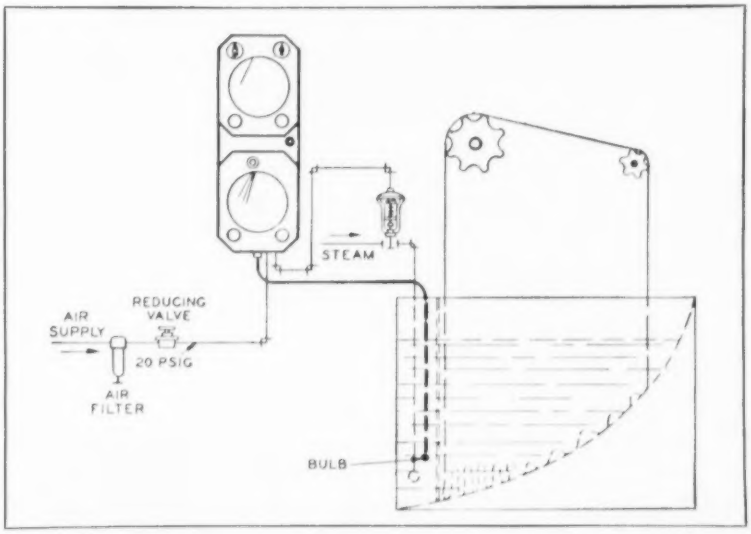
A superior detergent, wetting and re-wetting agent and dye assistant on all types of fibers. A nonionic of the alkyl phenol polyethylene oxide condensate type. Clear liquid. Has a pH of about 7.5.

PROCTER & GAMBLE, Textile Finishes Sales Department,
Cincinnati 1, Ohio

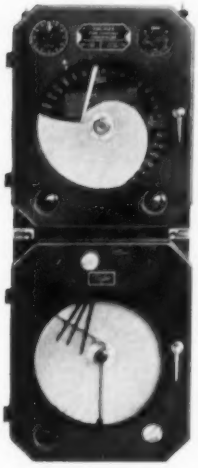
Makers of **OLATE, PROXOLS, ORVUS** *and* **KYRO** *products . . . for smoother textile processing*

HOW MUCH DYEING CONTROL IS ENOUGH?

When you specify Taylor you buy only as much as you need

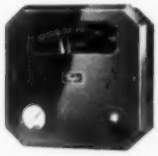


ILLUSTRATED at left is one way to control a piece dye machine, to give fully automatic operation of the entire process. Optional Taylor control instruments are described below, enabling you to buy as much control as your type of processing demands.



1. FULFLEX* Dye Machine Controller (above)

Automatically regulates rate of rise, hold time and temperature. No cams to cut for different cycles . . . just reset the dials and push start button to repeat any part of the cycle. Controlled cooling also available.



3. Taylor 86R Indicating Temperature Controller

Gives accurate temperature control automatically, wherever set point is set.

2. FULSCOPE* Process Timer

Accurately maintains temperature of dye liquor and times the dyeing cycle after it reaches pre-determined set point. Automatically shuts off steam and indicates end of dyeing cycle by signal light.

Ask your Taylor Field Engineer for full details, or write for **Bulletin 98199.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Taylor Instruments

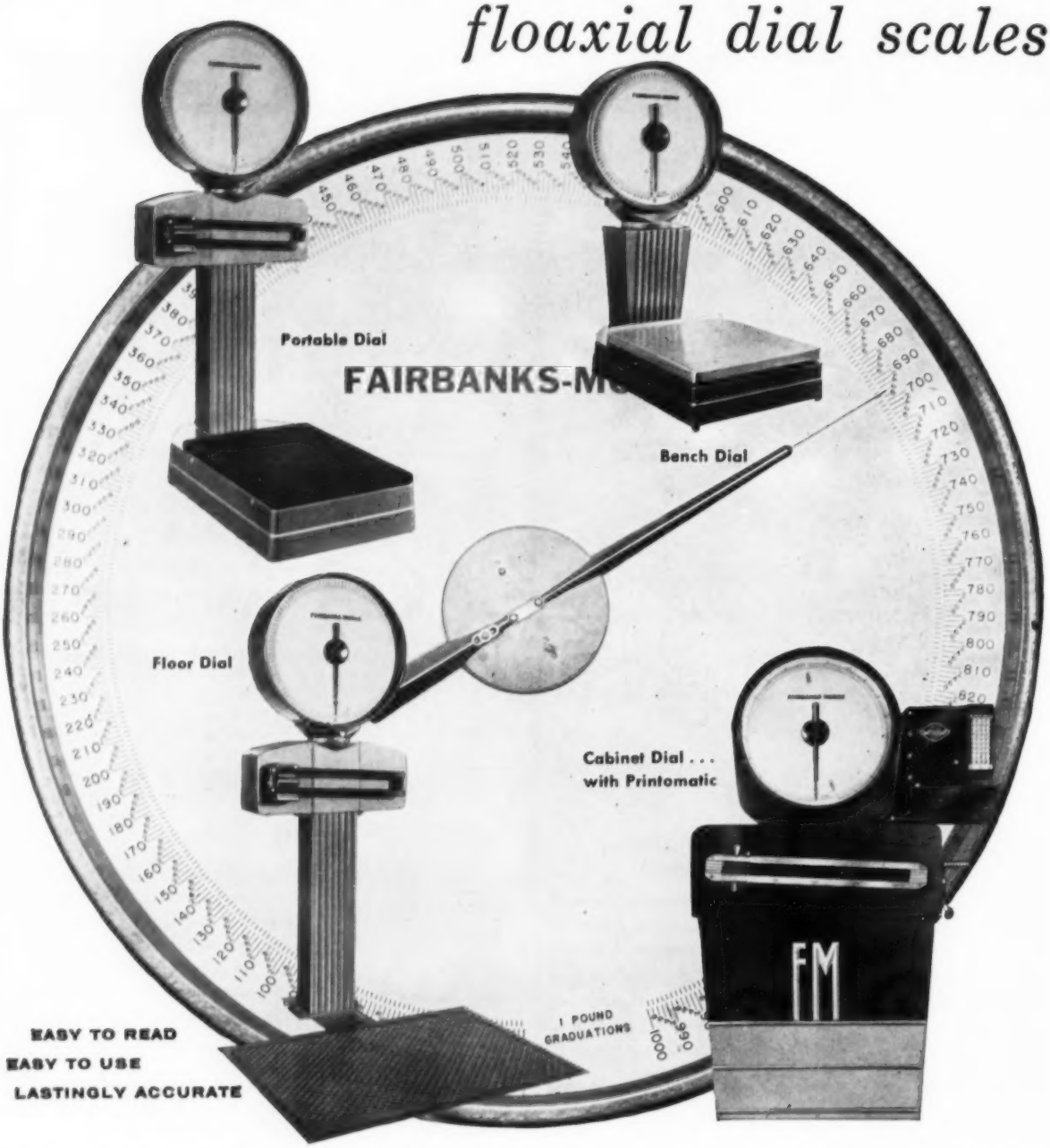
MEAN

ACCURACY FIRST

VISION · INGENUITY · DEPENDABILITY

*Trade-Mark

NEW . . . Fairbanks-Morse floaxial dial scales



Fairbanks-Morse engineers designed this new dial line with your needs in mind . . . based on exhaustive field reports. They're streamlined . . . easy to read . . . easy to use . . . rugged to resist shock loads and rough handling . . . easy to service and maintain. And, above all, they have the new, patented *Floaxial* dial mechanism that assures enduring accuracy. There are no knife edges or pin-point pivots to wear and affect long-life accurate weighing.

Dial chart and indicator are designed for easiest reading—ever! There's nothing to distract the eye . . . you get faster, easier weight indication. Dial head swivels a full 360 degrees.

Get the full story from your Fairbanks-Morse Scale Expert or write on your letterhead for a copy of new, colorful bulletin that describes the full line of Floaxial Scales. Address Fairbanks, Morse & Co., Dept. TI-5, 600 South Michigan Avenue, Chicago 5, Illinois.

FAIRBANKS-MORSE

a name worth remembering when you want the best

SCALES • PUMPS • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • MOWERS • MAGNETOS

how do HYATT Bearings fit into this picture?

The *Better* your *Bearings*, the *Finer* your *Fabrics!*

Watch "WIDE WIDE WORLD"
Sundays on NBC-TV

Roller bearings are the farthest thing from this gentleman's mind as he critically studies his appearance in the fitting-room mirror. But HYATTS played a vital role in guarding the fabric quality so clearly reflected in the suit he's about to buy!

Maintaining critical settings is no problem when your looms, preparatory and finishing machines are equipped with ultra-precision HYATT Hy-Roll Bearings. HYATTS eliminate the excessive internal clearance of worn plain bearings, which so often disrupts critical settings and downgrades otherwise top-quality textiles. HYATTS also save up to 40% on power, up to 98% on lubrication, prevent damage from oil spatters and cut maintenance costs way down. *Be sure to specify HYATT Hy-Roll Bearings on all your new or modernized equipment—it pays!* Hyatt Bearings Division of General Motors, Harrison, New Jersey.

GM GENERAL MOTORS

HYATT HY-ROLL BEARINGS FOR TEXTILE INDUSTRY

If You Are Confused by Conflicting Claims about DRAWING

Make a Mill Test Before You Buy

It will pay you to check claims against mill performance before you buy ANY drawing equipment—either as changeovers or new frames. We suggest that you install Ideal Feathertouch Drawing* and any other make or makes, side by side, and keep comparative records on:

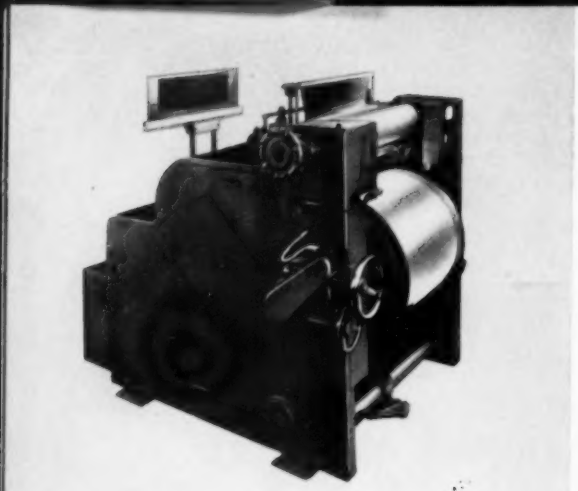
1. **Consistent operating speeds**
2. **Total production per week**
3. **Drawing sliver strength and evenness**
4. **Operating and maintenance costs**
5. **Ends down in spinning and weaving**
6. **Versatility**
7. **Overall production efficiency**

. . . Compare original costs, too

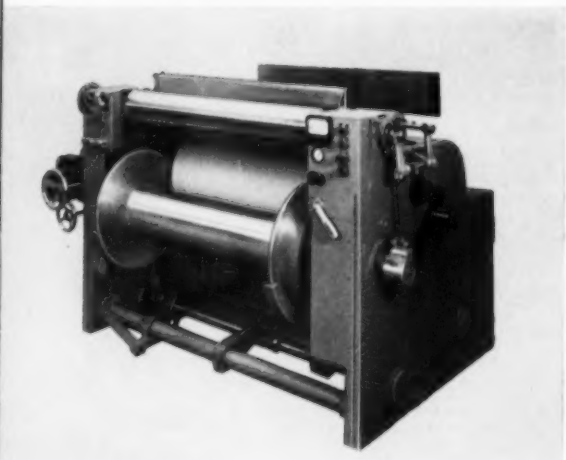
Ideal Welcomes Mill Comparisons on any basis

*Patent Nos. 2,610,363, 2,490,544, 2,412,357, 2,700,797. Other patents pending.

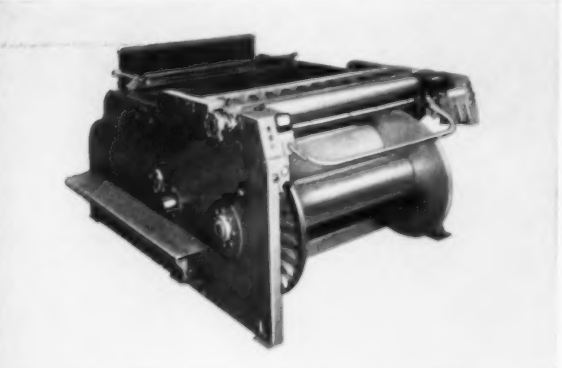
Ideal Industries, Inc.
Bessemer City, N. C.



1 KIDDE-SIPP 21" TRICOT WARPER—handles beams with 14" or 21" diameter flanges and with lengths up to 21". Minimum yarn speed is 75 YPM; maximum is 600 YPM.



2 KIDDE-SIPP 42" TRICOT WARPER is the same as the 21" Warper except that it will handle beams up to 42".



3 KIDDE-SIPP HIGH-SPEED COTTON SYSTEM WARPER—handles 54¼" or wider beams with flanges up to 36". Pushbutton controls. Constant yarn speeds to 900 YPM.

3 NEW WAYS ...to make better beams

ALL THREE of these new Kidde-Sipp warpers make better beams because all three have these Kidde-Sipp features:

Beam doffs automatically—even a girl can doff a 2000 pound beam easily, in a hurry, and single-handed. She just pushes a lever and a hydraulic system does the work . . . swings the beam down and out of the warper.

Yarn is never scuffed—because brakes on the measuring roll, compression roll, and beam are all synchronized electrically. When one stops, they all stop simultaneously. There's no strain to scuff the yarn.

Yarn builds up evenly—because the compression roller has 2 hydraulic cylinders—one at either end (instead of just 1 in the center). This produces even, balanced pressure which assures even build-up of yarn. And hydraulic loading ends all chatter and bounce.

Because there are neither counter shafts nor chains and sprockets in the drive, smooth and trouble-free operation is assured. There are a lot more good reasons why you get a better beam with these three Kidde-Sipp warpers. Find out more about it by writing to Dept. WB.

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde MANUFACTURING CO., INC — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

SOUTHERN OFFICE — 267 W. MAIN ST., GASTONIA, N. C.

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck

Exclusive graduated braking action of

Dayton ThoroCheck Straps reduces replacement 25-50%

Protects entire picking mechanism

Snubbing the picker stick to a graduated stop does even more than reduce replacement and maintenance costs of Dayton Endless ThoroCheck Straps. It gives you added savings by protecting and lengthening the life of pickers, sticks and shuttles.

Here's how Dayton's exclusive graduated checking action works. Instead of one wide strap, you have four narrow super-strength endless straps, which are quickly and easily installed.

The natural motion of the stick causes it to strike the top strap first. Under the impact, it "gives" slightly. A split second later, the second strap goes into action. Similarly, each of the straps slows the stick until all four Dayton Endless ThoroCheck Straps have taken hold. Then, with all four gripping the stick firmly, they bring it to a smooth, controlled halt.

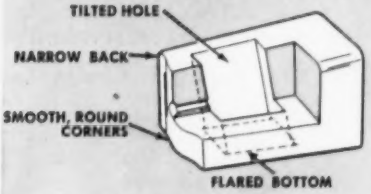
Impact is spread equally over the four straps. This more even distribution of snubbing action, plus greater tensile strength, is the reason Dayton Endless ThoroCheck Straps give 25-50% more wear.

This additional service has been proved in mill after mill.

Pickers, shuttles and sticks last longer, too, because Dayton check straps bring the stick to a "cushioned" stop. Temperature or humidity never affect Dayton ThoroCheck Straps, so you're assured fast, Monday starts.

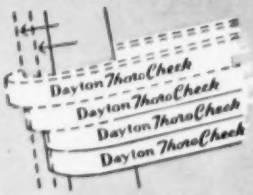
For more information on the savings and equipment protection you get from Dayton Endless ThoroCheck Straps, call your mill supply jobber or write The Dayton Rubber Company, Textile Div., 401 S. C. National Bank Building, Greenville, S. C.

Dayton Thorobred Loop Picker



All the qualities for perfect, longer picking

Dayton Endless ThoroCheck Straps

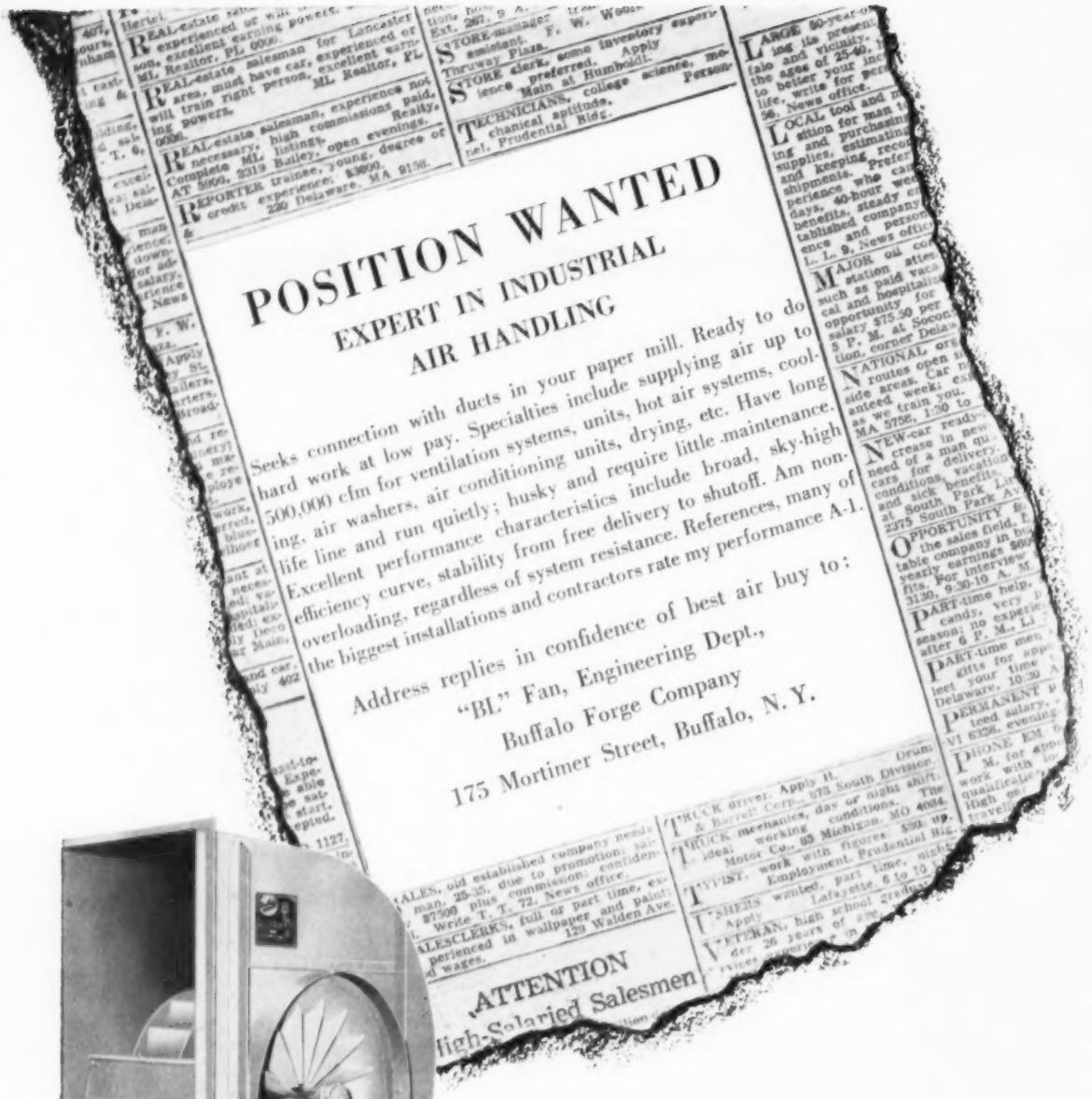


Picker stick is slowed by each Dayton Endless ThoroCheck Strap. Then all four cushion it to a halt, distributing the wear, impact.

© D. R. 1956

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving


POSITION WANTED
EXPERT IN INDUSTRIAL
AIR HANDLING
Seeks connection with ducts in your paper mill. Ready to do hard work at low pay. Specialties include supplying air up to 500,000 cfm for ventilation systems, units, hot air systems, cooling, air washers, air conditioning units, drying, etc. Have long life line and run quietly; husky and require little maintenance. Excellent performance characteristics include broad, sky-high efficiency curve, stability from free delivery to shutoff. Am non-overloading, regardless of system resistance. References, many of the biggest installations and contractors rate my performance A-1.
Address replies in confidence of best air buy to:
"BL" Fan, Engineering Dept.,
Buffalo Forge Company
175 Mortimer Street, Buffalo, N. Y.
ATTENTION
High-Salaried Salesmen

"BUFFALO" TYPE "BL" VENTILATING FANS FOR INDUSTRIAL SERVICE

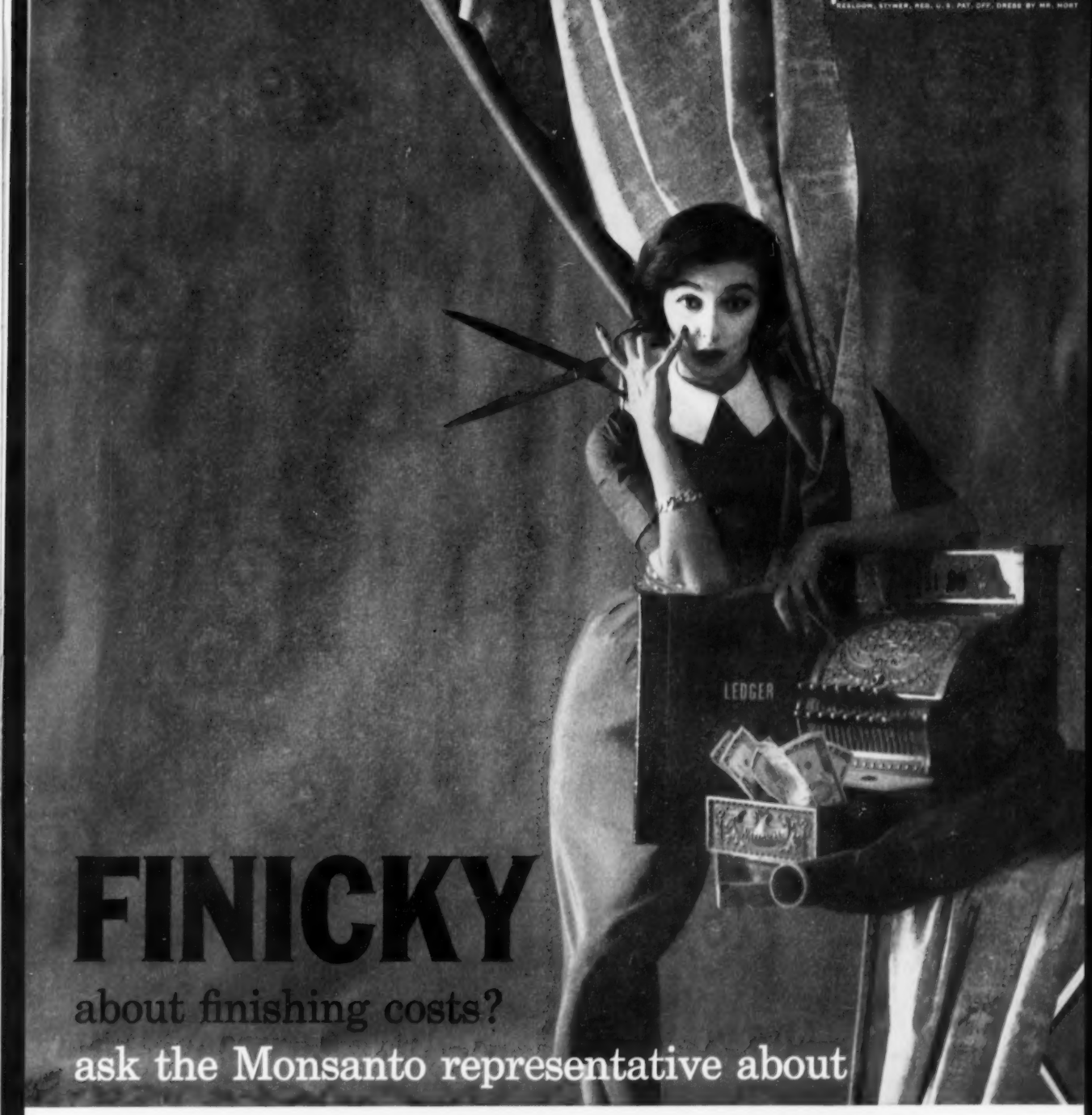
NOTE: In every "Buffalo" Fan is the "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.

BUFFALO FORGE COMPANY

BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING



FINICKY

about finishing costs?
ask the Monsanto representative about

"AC" CATALYSTS

Every performance advantage of the Monsanto Catalyst AC series has dollars-and-cents value for cost-conscious finishers.

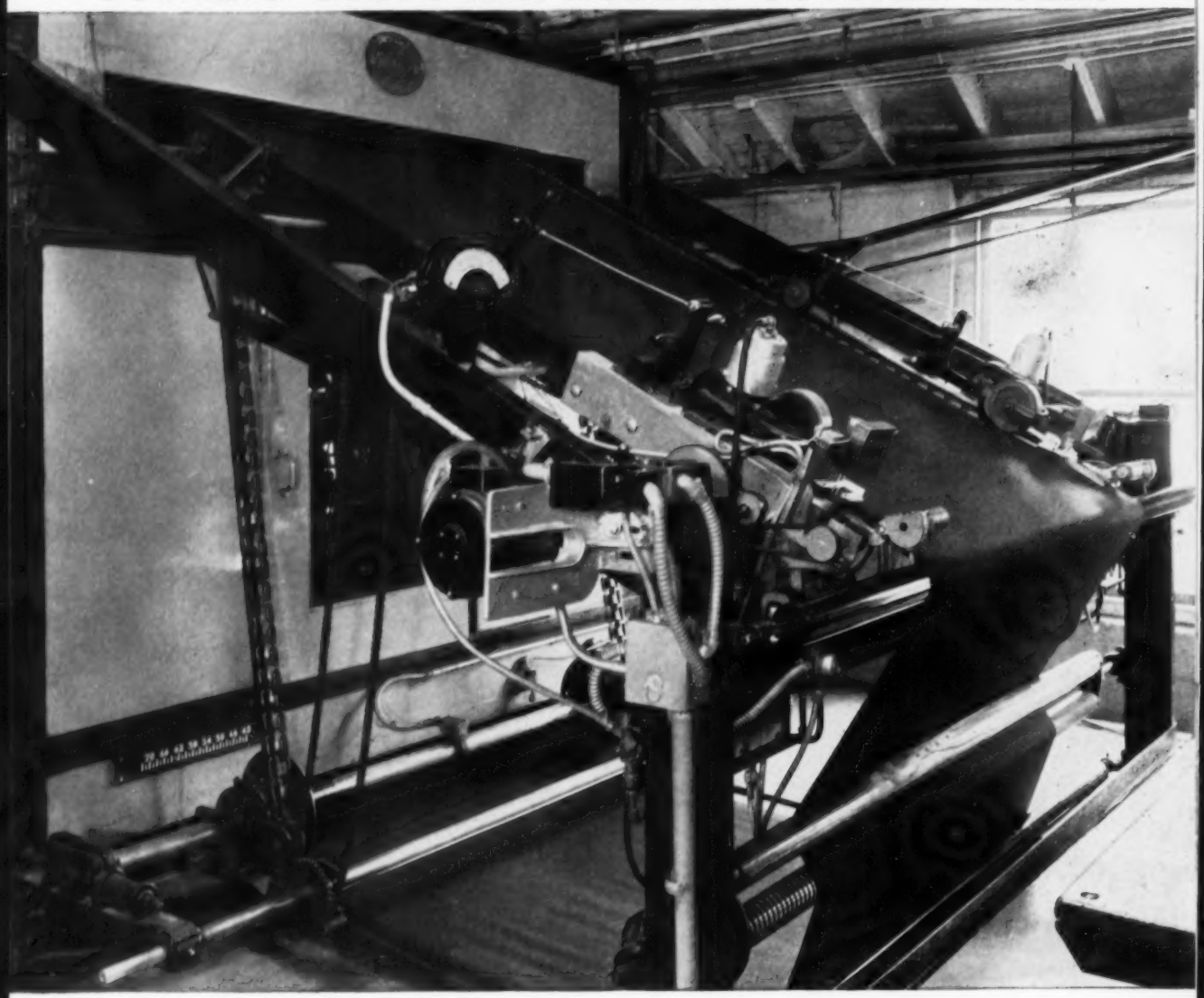
Tick them off – from longer resin bath life to faster, more completely uniform curing of melamine, urea, and other thermosetting finishing resins. You cut resin add-on and minimize the danger of amine odor formation and residual formaldehyde. AC Catalysts are compatible with all modifying agents. They allow full development of fabric properties.

Ask your Monsanto representative how you can squeeze the most profit out of your finishing operations. For technical literature and samples, write Monsanto Chemical Company, Plastics Division, Room 1888, Springfield 2, Mass.

MONSANTO

Other outstanding Monsanto Textile chemicals are: RESLOOM® E-50 . . . for outstanding dimensional stability and wrinkle recovery . . . with no stiffness or harshness. STYMER® S . . . a tough, uniform, flexible size for filament acetate.

CUTTING COSTS with RUBBER COVERED ROLLS



STOWE-WOODWARD Rubber Squeeze Rolls cut drying time and drying costs too . . .

Maximum uniform extraction of moisture in the squeeze rolls greatly reduces the load on the dryers, resulting in dual savings. Where the drying operation is a limiting factor in the speed of the process, the increase in extraction at the squeeze rolls can mean an increase in the speed of the process and a corresponding increase in production.

In new installations, the increased extraction afforded by Stowe-Woodward rolls often permits the use of smaller dryers, steam generating equipment and tenter frames. Ask your Stowe-Woodward Sales Engineer about the advantages of Stowe-Woodward rolls in your plant.

Complete roll processing plants at:
NEWTON UPPER FALLS, MASS.
NEENAH, WISCONSIN
GRIFFIN, GEORGIA

STOWE-WOODWARD, Inc.
Craftsmen in rubber

RUBBER ROLLS with a REPUTATION

New York office: WOOLWORTH BUILDING, NEW YORK 7, N. Y. • *On the West Coast:* HUNTINGTON RUBBER MILLS, INC., SEATTLE

Louden Monorail
cuts the cost of
Interplant Transport

As companies grow and expand production facilities, the problem of interplant transport of materials, parts or semi-finished products is often encountered. Time and again Louden Monorail proves to be the perfect answer. With Louden's Selectomatic Control, such an interplant transport system can be virtually *automatic*.

The Louden Selectomatic Interplant Transport System at the Marion, North Carolina, plants of the Clinchfield Manufacturing Company is a good example. Here the problem developed of transporting tons of cloth daily between three separate buildings. 650 feet of Louden Monorail with a weather proof car in almost continuous operation provides the perfect answer. The car can be raised and lowered as required for charging and discharging loads; the destination desired is preset by the control; transport is speedy, trouble free, automatic. It is estimated three men with trucks would have difficulty doing the same job.

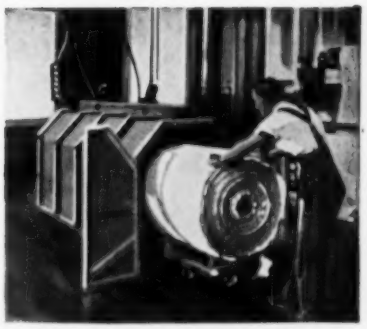
Louden Selectomatic Interplant Transport Systems can do many things not required in the Clinchfield installation described. It can automatically transport materials unattended from point to point anywhere in or about your plant, and it can select the shortest and most direct route to its destination. It can travel from floor to floor and building to building, open doors to let itself through and close doors behind it . . . building doors, floor doors, oven doors. It places loads in ovens or in banks of infra-red dryer lamps, turning the heat on and off as needed. It stops promptly when there is a load ahead or when it does not have the right of way, and resumes travel when the way is clear. It stops accurately at its destination and even loads and unloads its own carriers with certain classes of materials. It returns empty carriers to point of origin or places itself in storage awaiting its next call.

Louden Automatic Materials Handling is the guaranteed product of the pioneers and oldest company in the field of specialized monorail handling. Both the Louden field representatives and the factory engineers are highly trained specialists in the field of overhead materials handling. When you have a materials handling problem or any plant problem involving lifting and transporting loads, call on Louden for suggestions. This will cost you nothing but may prove to be the most profitable move you have ever made.

THE LOUDEN MACHINERY COMPANY

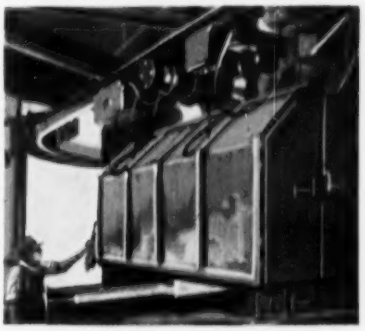
7205 Court St., Fairfield, Iowa

A Subsidiary of Mechanical Handling Systems Inc.

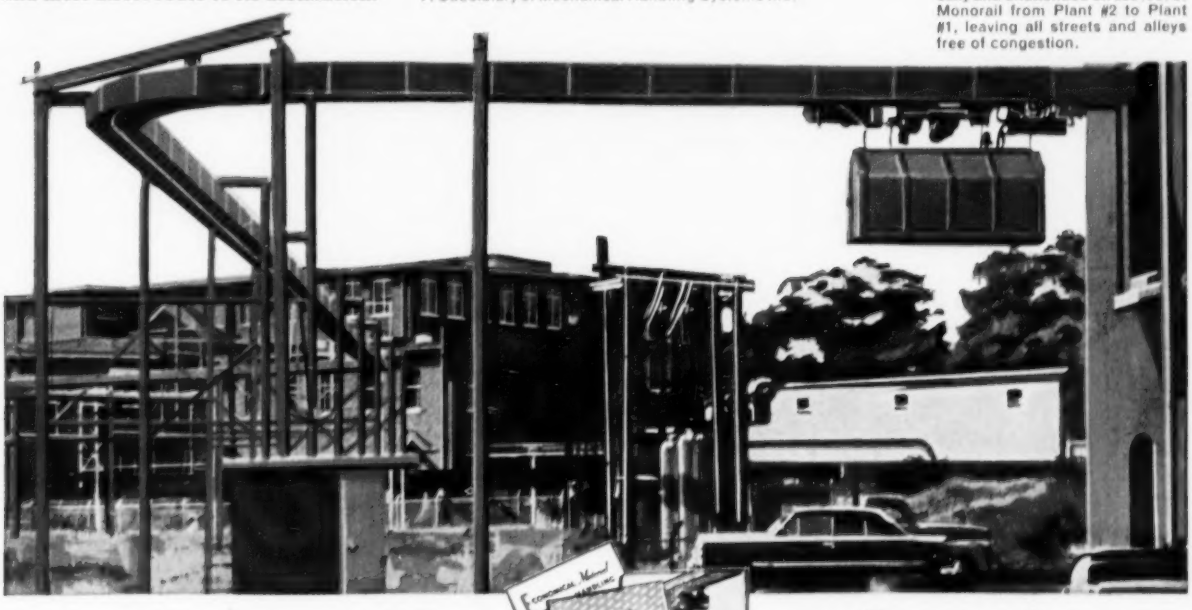


Operator loading carrier with two 650 pound beams of domestic print cloth prior to transport from loom room to cloth room.

Below:
Operator raising carrier into position, selecting destination by push button. Carrier automatically stops at desired destination.



Below:
Carrier completing trip automatically and unattended on 650 feet of Monorail from Plant #2 to Plant #1, leaving all streets and alleys free of congestion.



Get the latest information on the best in modern materials handling systems. Write today for your copy of "Economical Material Handling", a 52 page book full of how-to-do-it ideas. If you are interested in automation, ask for the new book on Louden Automatic Dispatch, "Automatic Materials Handling". With either you will receive the latest information on Louden Shok-Pruf Electrification, new safety in power for cranes and monorail systems.

Louden

MONORAIL & CRANES

SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

This man helps move 175 carloads of caustic at a time

(He's a deck officer on the Marine Dow-Chem)

After a few terse commands from the bridge, the 18,000-ton *Marine Dow-Chem* glides silently into the night. With her cargo of vital chemicals the *Dow-Chem* plies her way to key Dow terminals. In her storage tanks there is enough caustic soda to fill 175 tank cars.

Typical of the foresighted Dow attitude of solving a problem before it arises, the *Dow-Chem* was commissioned in 1954 with an eye to the future needs of industry. Today, this specially equipped ship is an important part of our vast distribution system.

As demand increases, Dow will continue to lead the way in developing new methods to deliver caustic soda to your doorstep in any form or quantity. THE DOW CHEMICAL COMPANY, Midland, Mich., Dept. AL 600F-1.

YOU CAN DEPEND ON DOW

$9,000 a year saved

by Royal Yarn Dyeing Corp. with p·k waste water heat reclaimer

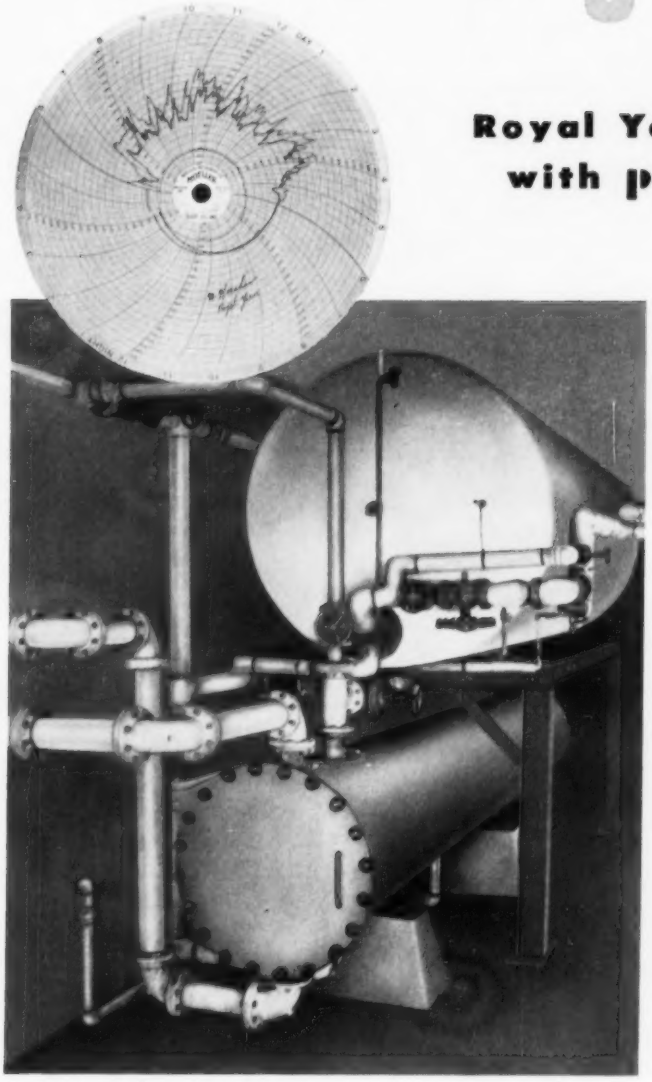


Photo shows p·k waste water heat reclaimer at Royal, plus p·k cement lined hot water storage heater. Chart authenticated by Mr. Kershaw, shows typical twelve hour day operation. Incoming city water is heated from 48° to 105°, without cost by the p·k waste water heat reclaimer.

Since they installed a p·k waste water heat reclaimer, Royal Yarn Dyeing Corp. of Brooklyn regularly save a minimum of 600 gallons of fuel oil each day, costing 6 cents a gallon.

Mr. Milton Kershaw, the Chief Engineer at the plant, says, "The p·k waste water heat reclaimer represents an additional 100 horsepower in working load." By taking hot waste water from dyeing vats and running it through the p·k heat reclaimer, city water temperature is increased from an average 48° to 105°. Heating incoming cold water in this way costs the company *nothing* — and has eliminated the need for additional boiler capacity.

If you are presently dumping hot process water down the drain, or not getting the maximum waste heat recovery from your present equipment, you can get the right facts and figures from p·k without obligation. Write now and ask for catalog #310.

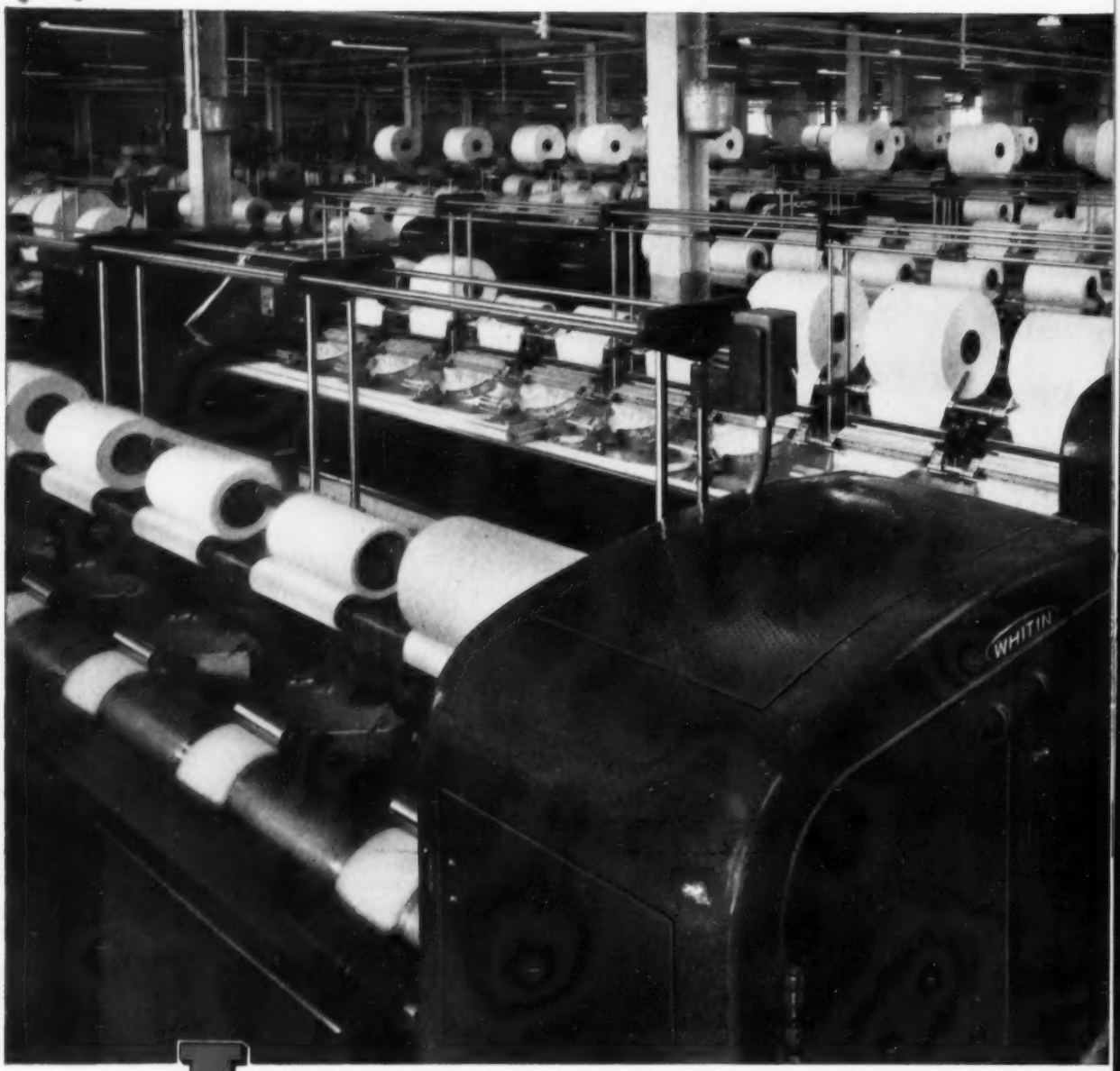
The Patterson-Kelley Co., Inc., 1150 Wilson Ave., East Stroudsburg, Pa.

Patterson Kelley

Twin Shell Blenders • Autoclaves • Pilot Plants • Heat Exchangers • Ribbon and Double Cone Blenders • Lever Lock Doors

3878

Now.. Whitin presents the



SUPER J

Higher production rates up to 50 lbs./hr. (at 100% efficiency) and greater nep removal are performance features of the new Whitin Super J Comber. Its constructional features have been thoroughly proven in mills all over the world. The comber operates at a constant 150 nips per minute, 20% faster than other combers, producing very even, high quality sliver, with extremely accurate waste removal.

SUPER J COMBER

Featuring...

- **Higher Production**
- **Greater Nep Removal**
- **Unsurpassed Sliver Quality**
- **Lowest Maintenance and Operating Costs**

• CONSTRUCTION FEATURES •

- 8 heads, single side
- Extremely precise construction
- 50% fewer parts than competitive combers
- New spring cushion plate, heavier detaching rolls and weighting, signal lights, lap run-out and knock-off motions
- Unique, simple detaching motion
- Bi-Coil or single sliver
- Unit assemblies

• OPERATING FEATURES •

- Simple to operate
- Efficiency up to 97%
- Low production cost/lb.
- Maintains settings between annual overhauls
- Simple setting, timing and waste control adjustments
- All heads set identically
- Total repair and maintenance costs 1/10th or less than competitive combers

For complete information ask your Whitin representative or write direct to us.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

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FIELD LABORATORIES

FAST, EXPERT COUNSEL ON YOUR PROBLEMS

Products

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- PEARL HOMOGIZING PEARL No. 173
- WAXY R-GUM No. 10
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...make it EASY to IMPROVE textile sizing, printing, finishing...

OK SERVICE—Top flight textile research men working with the finest of modern laboratory facilities develop better textile starches for you . . . carefully control formulae uniformity. A fleet of Hubinger planes bring OK field laboratories and expert textile technicians right to your door . . . and fast.

OK PRODUCTS—A wide range of profit proven products provide an economical means for improved sizing, printing and finishing. SPECIAL OK TEXTILE STARCHES are *tailor-made* to meet your needs.

Let **OK SERVICE** and **OK PRODUCTS** help you save time, improve quality and profit more. Contact the OK representative nearest you . . . you'll find him OK too.

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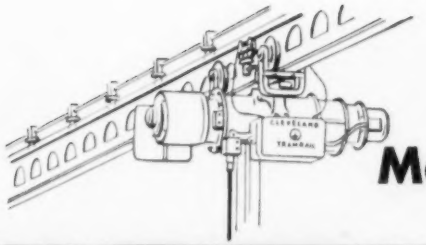
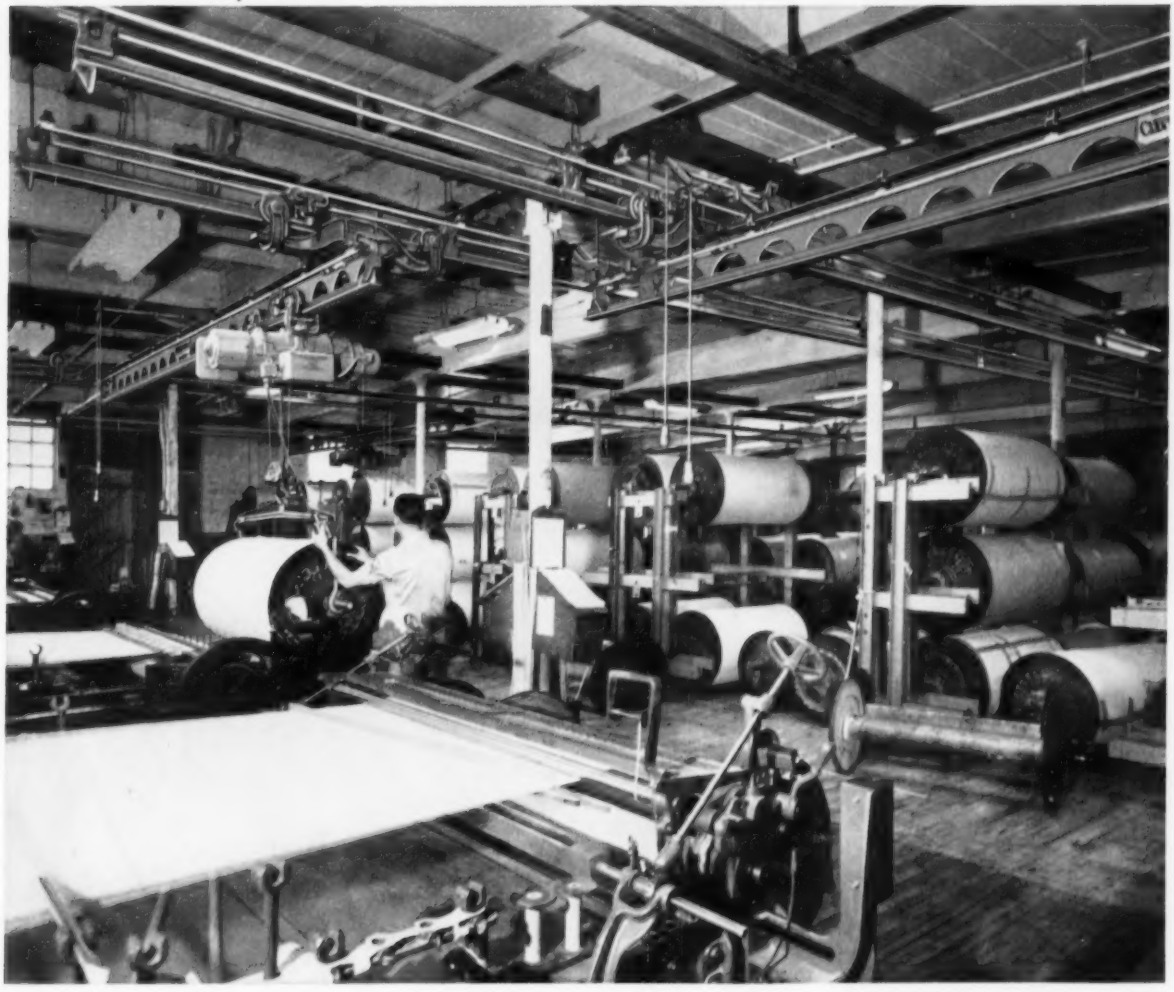
HUBINGER QUALITY PRODUCTS 76 YEARS FROM GRAIN



Transfer Cranes Make Beam Handling Easy



IN THIS photograph you see a 28 inch beam weighing 1300 lbs. being lifted off a slasher with a Cleveland Tramrail handpropelled crane equipped with an electric hoist. In a matter of seconds the beam is placed into a rack in the Loom Beam Storage.

The Tramrail enables one man to take care of this job easily and safely. It makes possible the use of storage racks because no physical work is required of the operator to lift the beams in and out of them. The racks permit storing more beams in the storage area and provide immediate accessibility to any beam.

Three cranes serve five slashers in this mill. They operate on individual and adjacent runways. They may be interlocked with connecting spur tracks and thus admit a hoist carrier to move onto any crane.

This is one of dozens of types of Cleveland Tramrail applications used widely by the Textile Industry.

CLEVELAND TRAMRAIL

Overhead Materials Handling Equipment

CLEVELAND TRAMRAIL DIVISION • THE CLEVELAND CRANE & ENGINEERING CO. • 2882 E. 287 ST. • WICKLIFFE, OHIO

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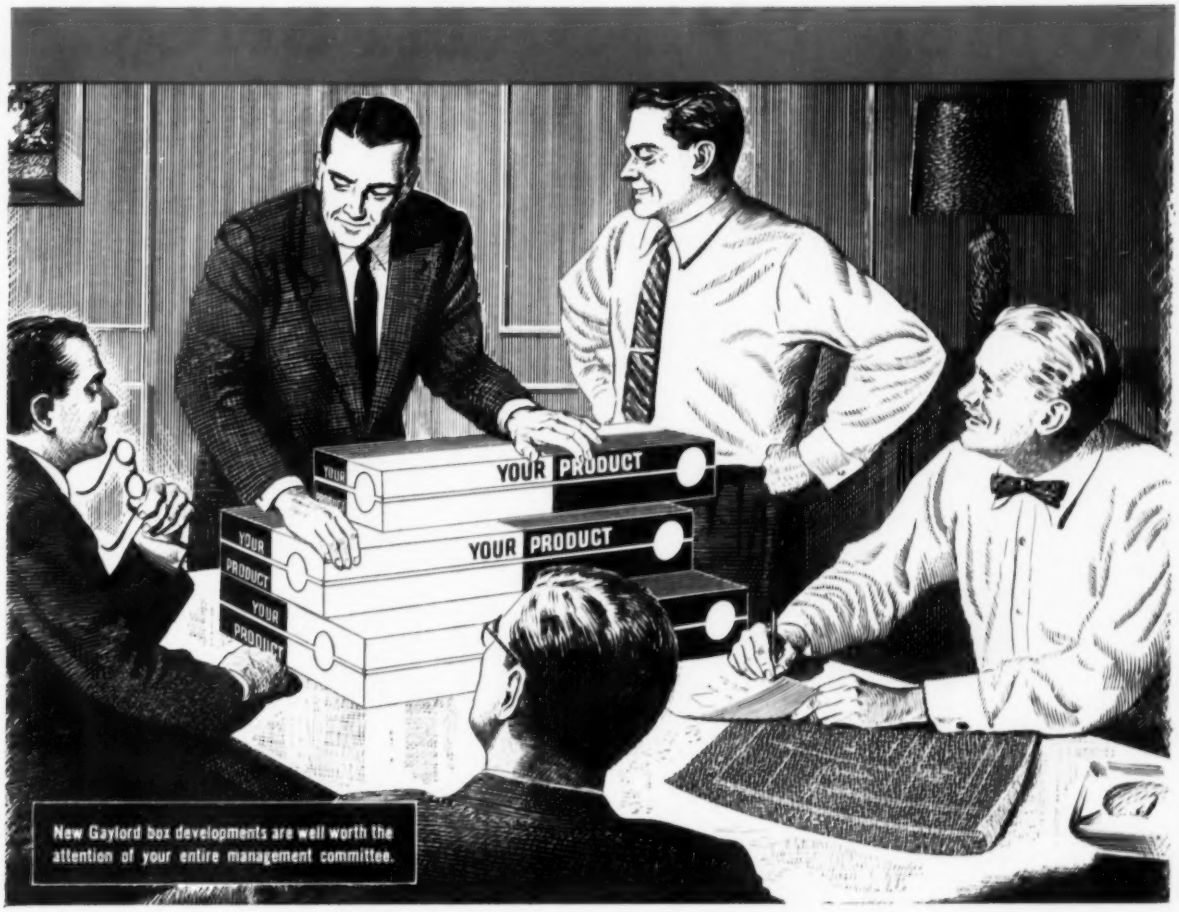

YOUR PRODUCT
YOUR PRODUCT
YOUR PRODUCT
YOUR PRODUCT
YOUR PRODUCT
New Gaylord box developments are well worth the attention of your entire management committee.

ARE YOUR BOXES 1957 MODELS?

How long since you've reviewed <u>your</u> boxes? Packaging development moves fast. Boxes can become "dated" in just a few years.

Gaylord is constantly developing new protective designs, using new specialized materials, new engineering techniques, new box-making methods, new printing ideas.

Your nearby Gaylord packaging engineer will help you up-date your boxes . . . make them work harder, look handsomer, pay off better for you. Call him now.

Gaylord Boxes

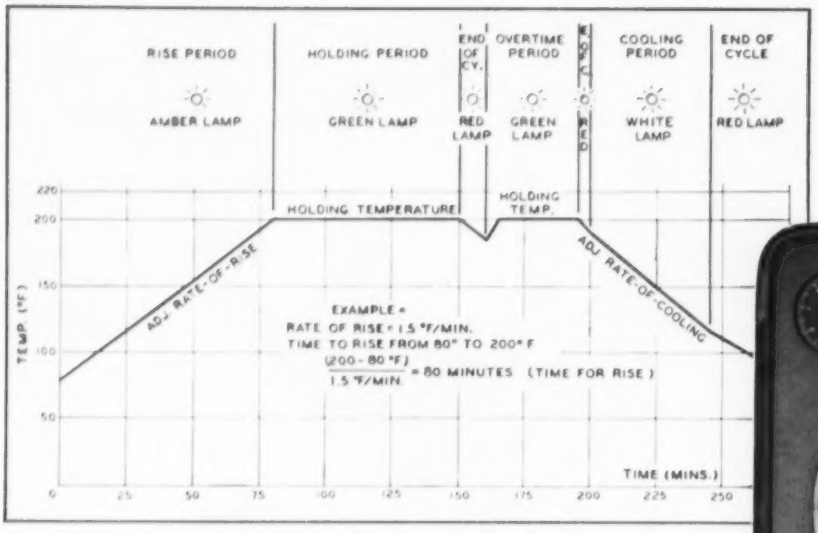
CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

No More DYE-BATH SHOCK

for Knitted Fabrics and Piece Goods



Typical Dyeing Schedule for Piece Goods using the new Foxboro Model 40 C-HC CycleLog Controller

. . . Model 40 C-HC CycleLog*

Automatically Controls Rate of Cooling as well as Rate of Rise

NOW YOU CAN PROTECT all your woven fabrics and hosiery from uneven shade, creasing, and crow's-feet caused by too rapid cooling of the goods while hot and plastic. New Model 40 C-HC Controller carries out *every* temperature step in the dyeing schedule—duplicates uniformity in every batch.

Like the widely-used Model 40 C-H CycleLog Controller, the new Model 40 C-HC automatically brings the bath to "the boil" at the desired rate, and holds the dyeing temperature for the required period. In addition, this special new model controls *cooling* . . . gradually lowers bath temperature at the safest rate without waste of time. For complete information, write for Engineering Data Sheet 220-60.

*Trade Mark

THE FOXBORO COMPANY, 485 NEPONSET AVENUE, FOXBORO, MASSACHUSETTS, U. S. A.

FOXBORO REG. U. S. PAT. OFF. **CycleLog Controllers**

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

For Processing and Finishing Wools, Cottons, Silks, Synthetics

When you use soap—You Can Depend On

COLGATE FORMULA 10

For the best job!

92% **Sodium Oleate** • titer on the fatty acids 10° Centigrade • easily dissolved • excellent detergent effect • mild fulling action when you want it • easily rinsed at low temperatures with no bad odor left in the fabric.

Yes, you can depend on COLGATE FORMULA 10* for dozens of textile processing and finishing jobs.

For low-temperature washing *ordinarily requiring olive oil soaps*, try COLGATE FORMULA 25.*

*Sold in eastern states only.

See your local C.P. representative for details, or write today to our Industrial Department.

FREE! Latest Edition Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose. Get a copy from your C.P. representative, or write us at any one of the offices listed below.

COLGATE-PALMOLIVE COMPANY • 300 Park Ave., N.Y. 22, N.Y. • Atlanta 5, Ga. • Chicago 11, Ill.

News about

B.F.Goodrich Chemical *raw materials*

denims in with whites?

Yes...Hycar-treated denims are colorfast

DENIMS sized with Hycar Latex are really colorfast —even in the first laundering. They can be washed along with fine white fabrics with no danger of discoloration.

The greater durability of Hycar-sized denims also makes a big hit with users. Tests made under Federal Specifications CCC-T-191-B show that sizes made from Hycar Latex dispersions increase wear resistance of cottons as much as 300% more than starch sizes. This strength is maintained during repeated launderings.

For further information write Dept. ET-3, B. F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

USE HYCAR LATEX HERE FOR BETTER TEXTILE PROPERTIES

Warp size . . . lasting abrasion resistance for cotton, rayon, denim
Aftertreatment . . . reduced crock, improved wear life
Dye Bath . . . more uniform colors
Starch Blend . . . improved rayon seam strength
Resin Blend . . . greater crease resistance in cotton, rayon
Bonding Material . . . for non-woven fabrics, screen printing inks

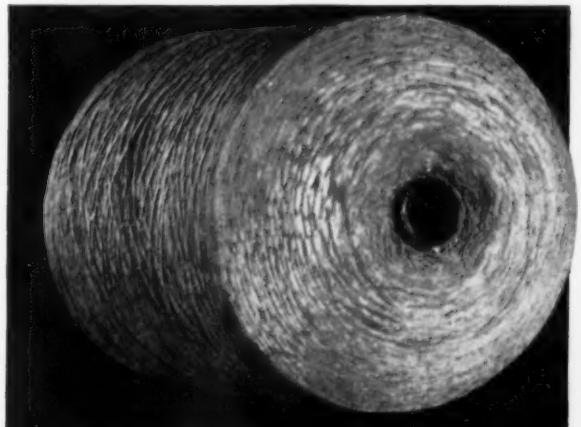
Hycar
Reg. U. S. Pat. Off.
American Latex

B. F. Goodrich Chemical Company
a division of The B.F.Goodrich Company

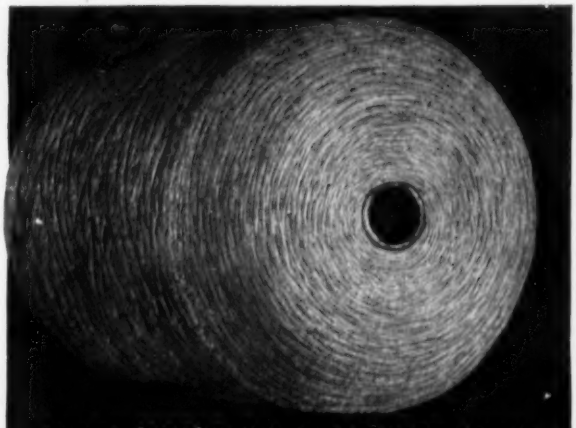
B.F.Goodrich GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

You don't add objectionable calcium when you use

MORTON '999' SALT *Chemical Grade*



Ordinary salt high in calcium and magnesium content can cause you trouble in the form of off-shading, cut threads, costly shutdowns.



Morton '999' Salt is exceptionally low in calcium and magnesium content to help give softer finishes, more even shades, greater color intensity.

Morton '999' is a low-cost, high purity evaporated salt, free of objectionable calcium and magnesium compounds. '999' is 99.9% clean, pure sodium chloride for use whenever low calcium salt is needed.

As the chart, below, shows, for direct salting you may reduce the total calcium content by as much as 1950 parts per million by using '999' instead of common grades of ordinary salt. Where you are investing time and money in turning out a quality product, Morton '999' Salt is low-cost insurance against dyeing failures caused by excessive calcium in salt.

Available in 100-lb. bags or bulk, '999' is specifically recommended when direct salting is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes.

MORTON SALT COMPANY
Industrial Division, Dept. TI-5
120 South LaSalle Street
Chicago 3, Illinois

___ Please send me more information about Morton '999' Salt.

___ I would also like to know how much I can reduce calcium and magnesium content by using Morton '999' Salt. Please have a Morton Brine Engineer call on me to explain the benefits of using '999' Salt.

Name_____

Title_____

Company_____

Street Address_____

City_____ Zone_____ State_____

Ordinary salt averages 125-2000 PPM

PPM Calcium and Magnesium

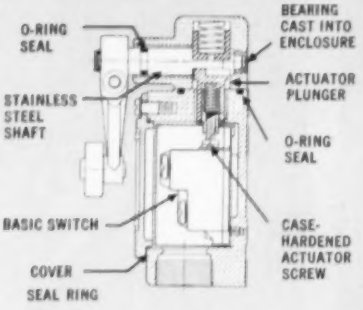
Morton '999' Salt (Chemical Grade) is guaranteed to contain less than 50 PPM

MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. TI-5, 120 So. La Salle Street, Chicago 3, Illinois

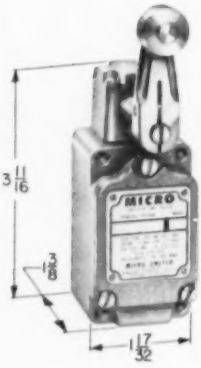
MICRO SWITCH . . . FIRST IN PRECISION SWITCHING

Seals Give Maximum Protection

Sealing is provided by use of O-ring seals on the actuator shaft and between the actuator head and the housing. A synthetic rubber ring seal is provided for the cover. These seals provide maximum protection against the entrance of dust, lint, oil and other liquids.



Moving Parts Completely Sealed

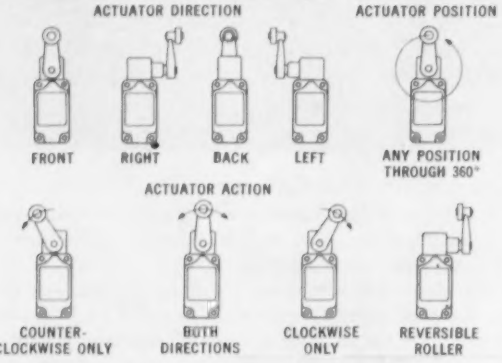


All moving parts and the switching chamber are completely sealed—protected from wear or becoming fouled. Two-circuit double break contact arrangement allows flexibility in circuit design. Roller arm actuators are of forged aluminum alloy—give utmost resistance to shock and vibration.

These MICRO SWITCH "LS" precision limit switches can be your answer to MORE PRODUCTIVE mill operations

Easy to mount . . . easy to install . . . reliable in operation . . . these small, versatile, two-circuit switches meet today's demand for more automatic processes

Send for Catalog 83 for full information



Field adjustable to any position

The roller arm actuator is field adjustable through 360°, positively locking at any position. Actuators are assembled to operate in either direction or in one direction only, clockwise or counter-clockwise by removing the actuator head and rotating the notched plunger 90°. The head may be rotated to permit actuation from any of four quadrants.

SWITCH CHARACTERISTICS:

Operating force—3 lbs. max.; Pretravel—20° max.; Full overtravel force—6 lbs. max.; Differential travel—12° max.; Release force—½ lb. min.; Overtravel—30° min.

ELECTRICAL RATING: 10 amps. 120, 240, 480 v ac; ½ H.P. 120 v ac; 1 H.P. 240 v ac; .8 amp. 115 v dc; .4 amp. 230 v dc; .1 amp. 550 v dc. Pilot duty rating 600 v ac, max.

Write for the name of the MICRO SWITCH distributor nearest you. Field engineering service is available at your nearby MICRO SWITCH Branch office.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

THANKS

For Your Enthusiastic Reception of

THE FIRST WORKABLE
(Permanent Crimp)
METALLIC STAPLE
(Patent Applied for)

Designers are acclaiming the sparkling 3-dimensional effect this new Reynolds Aluminum staple gives to fabrics. They say it opens new vistas... offers fresh inspiration for coming lines.

- *Fine Crimp, Permanent—Completely Practical.*
- *Blends with Cotton, Wool, or Synthetics.*
- *Broad Scope of Design—Usable in any Proportion of Aluminum Yarn to Other Yarns.*
- *Two Types—With Aluminized Mylar* and Foil-and-Mylar.*
- *Silver, Gold and a Wide Range of Lustrous Colors.*
- *Available in fiber fineness from 1/100" to 1/220".*
- *All usual staple lengths—to meet your requirements.*

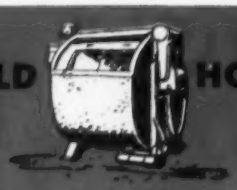
Reynolds is a leading supplier of Continuous Filament Aluminum Yarn, Aluminized Mylar Yarn and Foil-and-Mylar Yarn. Call any Reynolds Sales Office or write to Reynolds Metals Company, General Sales Office, Louisville 1, Ky.

**DuPont Trademark for its Polyester Film*

Reynolds Aluminum Yarn

See "Circus Boy", Sundays, NBC-TV.

THE GLAMOUR GLEAM IN FINE FABRICS

YOUR OLD  HOSIERY DYEING MACHINES HAVE

TRADE-IN Value!

Replace them with *MODERN* SMITH-DRUM Rotaries

Abolish High Maintenance Costs . . . Improve Quality of Work

Every dyeing machine has a normal life-span of efficient operation. Beyond that point, maintenance costs and work stoppages make continued operation progressively more costly! In spite of this fact, there are many old machines still in use that have far out-lived their efficiency.

By taking advantage of the trade-in value of your old Monel hosiery dyeing machines on modern SMITH-DRUM Stainless Steel Rotaries you will eliminate high maintenance costs . . . effect many operating economies . . . improve quality of work. We will be glad to inspect your present equipment and give you an accurate appraisal of its trade-in value.

CHECK THESE FEATURES AGAINST YOUR OLD MACHINES

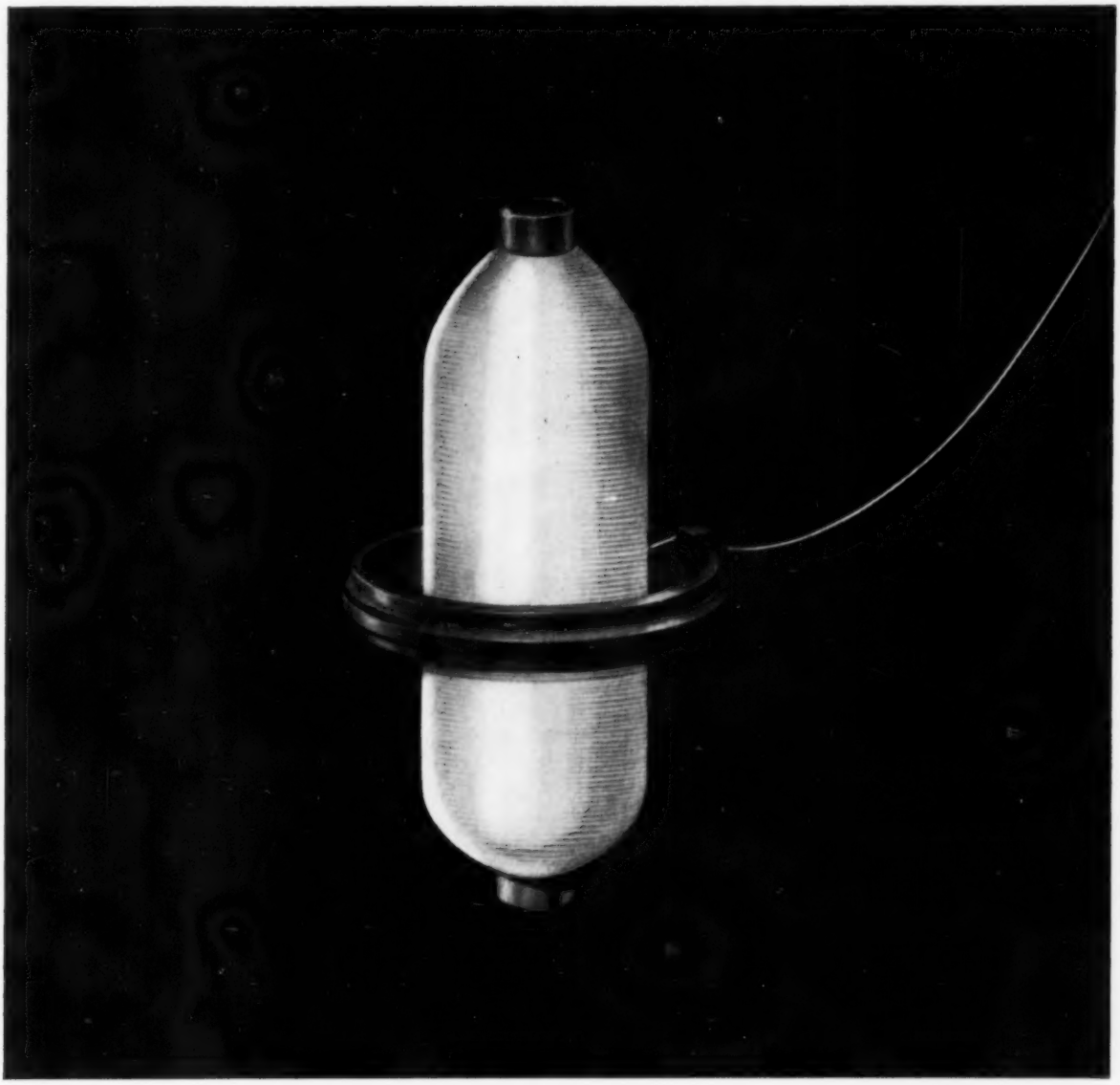
- **STAINLESS STEEL CONSTRUCTION**
  . . . no corrosion . . . no contamination
- **ROLLED CORNERS**
  . . . replace riveted and soldered construction.
  . . . permit easier and complete rinsing.

- **NEW NON-METALLIC BEARINGS**
  . . . replace bronze bearings.
  . . . longer life . . . non-corrosive.
- **MODERN DYEHOUSE-INSULATED MOTORS**
  . . . long trouble-free life.

SMITH, DRUM & COMPANY

432 W. Allegheny Ave., Philadelphia 33, Pa.

Southern Sales Representatives: **PARROTT AND BALLENTINE • 518 South Carolina National Bank Bldg., Greenville, South Carolina**



reduce wear, lengthen life of spindle bearings

Spinesso is a premium-grade lubricating oil for both spinning and twister spindle bearings. Its exceptionally high oxidation stability affords maximum bearing protection – and extends the time between lubrications considerably. Spinesso's high resistance to oxidation inhibits the formation of dark, sludge-like deposits that cause friction in the bolster – and stain yarn.

Spinesso is specially processed to provide an extra measure of protection against wear and to materially reduce rusting and pitting. Thus the problems most frequently encountered in high-speed bearing operations in humid textile mill atmospheres are minimized. Spinesso gives positive protection at all times – even at start-up when immediate and effective lubrication is essential.

Textile mills that have switched to Spinesso report *cleaner, longer-lasting spindle bolsters and blades—with less frequent lubrication.*

Spinesso is available in *three* viscosity grades. Get the whole story on this fine product . . . contact your nearest Esso Standard Oil Co. Division Office: Boston; Pelham, N. Y.; Elizabeth, N. J.; Bala-Cynwyd, Pa.; Baltimore; Richmond; Charlotte; Columbia, S. C.; Memphis; New Orleans.

FOR BETTER RESULTS

SPINESSO

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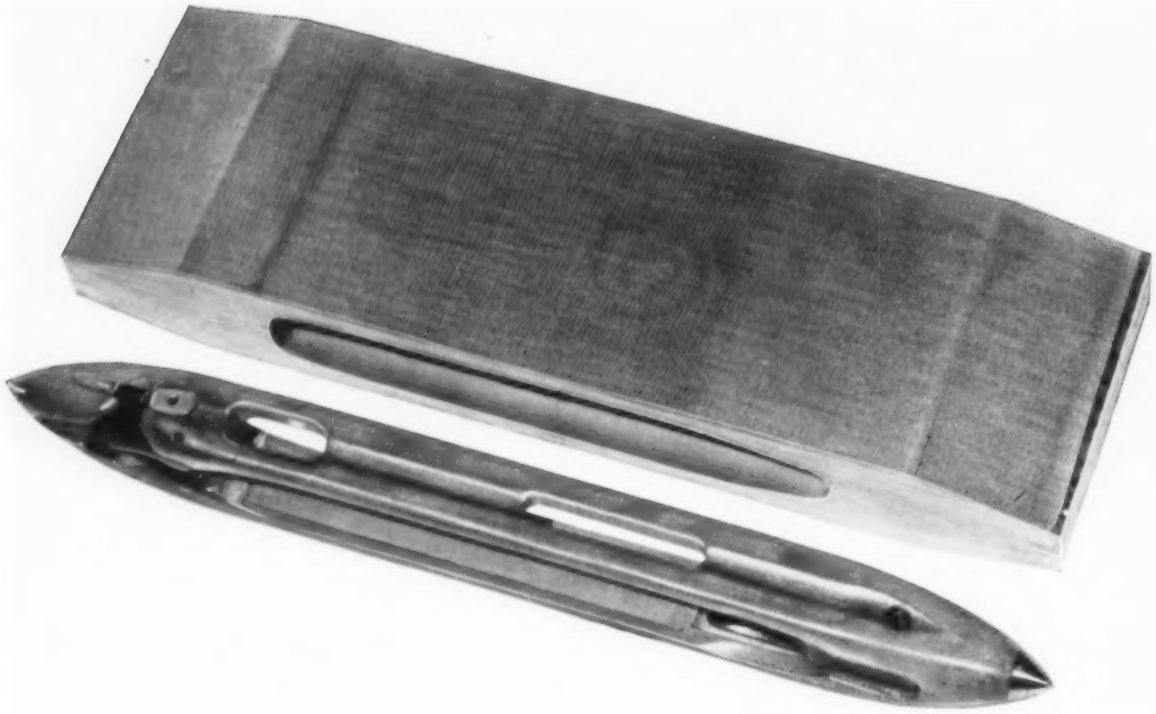
PETROLEUM PRODUCTS



New **MICARTA**® plastic shuttle lasts at least 3 times as long as wood

Rugged Westinghouse Micarta molded-plastic shuttles reduce your weaving room costs by giving you longer shuttle life and lower maintenance costs.

When you consider what conventional shuttles can cost you in breakage of shuttles, picker sticks and other vulnerable parts, increase in off-quality cloth, loss of production and higher labor and repair costs, it's easy to figure what long-lasting Micarta shuttles can mean to your weaving room.

Shuttles are produced out of a solid, uniform piece of grainless molded plastic.

There is no cracking or breaking . . . no snagging of delicate fabrics . . . no need to worry about splintering.

Westinghouse does not make the finished shuttle, but supplies shuttle forms to the Southern Shuttles Division, Steel Heddle Mfg. Co., Greenville, S. C., which produces economical, long-life Micarta shuttles under the trade name Duramold. Make sure Micarta plastic is used in the shuttles you buy for your mill. J-06633-X

WATCH WESTINGHOUSE!

*WHERE **BIG** THINGS ARE HAPPENING **TODAY!***

GOOD IDEAS ARE WORTH MONEY TO YOU

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To the man with an idea:

Let Stehedco Research and Development help you to capitalize on your ideas.

The growth of Steel Heddle Mfg. Co. since 1898 has been greatly aided by practical ideas from mill men which were beneficial to the Textile Industry, and the people we have worked with are well satisfied and happy with their financial return.

If you have an idea for us to develop and market, or a completely designed product, tell us about it. Make your story as complete as possible and send it to Steel Heddle Mfg. Co., Box #6833, Philadelphia 32, Pa., or to Southern Shuttles Division, Box #1899, Greenville, S. C., to the attention of the Research and Development Department. Your rights will be fully protected in every way.

The idea, gadget, new product or invention must be applicable in the throwing, warp and yarn preparation or weaving field. It may be an improvement in our present line of products, or a new product for the same line. We will give your idea full consideration and tell you frankly whether or not we think it has merit. Should the idea not be applicable to our manufacture we can help you locate sources which we feel would be to your best interests in exploiting the idea.

You have everything to gain and nothing to lose, so let us hear from you.

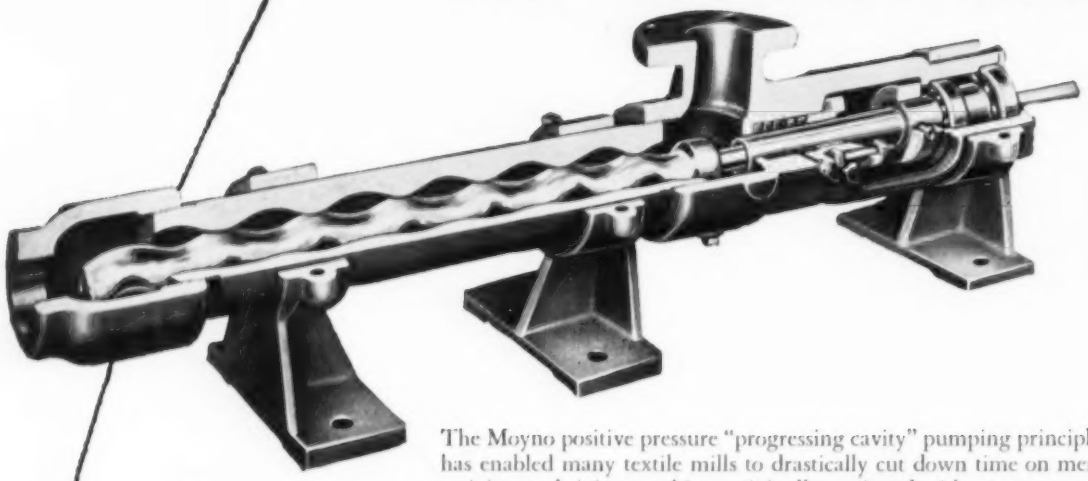
Yours for better textiles

Harry W. Fehr

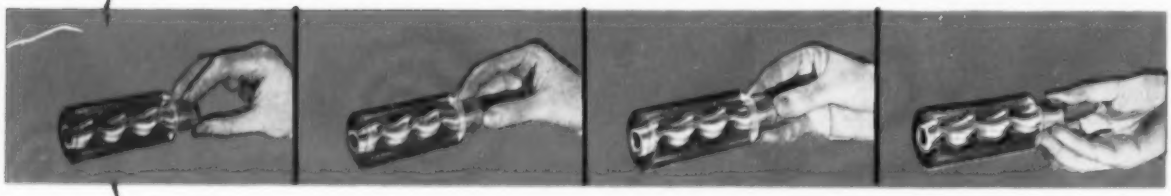
Harry W. Fehr, President
Steel Heddle Mfg. Co.

in textile mills . . .

MOYNO® PUMPS CUT DOWN TIME



The Moyno positive pressure "progressing cavity" pumping principle has enabled many textile mills to drastically cut down time on mercerizing and sizing machines originally equipped with rotary pumps which wear quickly and lose capacity and suction characteristics. Moyno is the only pump that can satisfactorily handle many caustic alkali solutions without excessive wear, foaming or aerating.



As shown above, Moyno Pumps have a screw-like rotor that revolves in a double threaded stator creating progressing cavities which smoothly move material through the pump. They will pump anything that will move through a pipe . . . even plaster and non-pourable pastes!

Moyno Pumps are available in capacities up to 500 gpm and pressures up to 1000 psi.

Examine your processing methods. No doubt there are several places where Moyno Pumps can drastically cut costs. Ask us, we'll give you a frank answer. Send us an outline of your problem today! Write for Bulletin 30-TI.

ROBBINS & MYERS, INC.

SPRINGFIELD, OHIO — BRANTFORD, ONTARIO

Cibalan® Blue FBL

CIBA

Bring Your Dyeing Up-To-Date. In its phenomenal growth the Cibalan range of fast dyes for wool, nylon and silk is unequalled by any similar group of colors. Cibalan Blue FBL, the 29th and newest member of the group, has all the important Cibalan properties that lead to consumer enthusiasm. The slightly reddish blue color of Cibalan Blue FBL exhibits very good light and wash fastness and does not change under artificial light.

Cibalan Blue FBL dyes level shades from neutral and acidic baths, imparting fastness without after treatment or development. **For color quality and economy of application—take a look at Cibalan Blue FBL.**

CIBA COMPANY INC.
627 Greenwich Street, New York 14, N.Y.

a superior HAIRON strap

Straight
Curved
BiCut

Tannate® HAIRON

A *superior check strap* means—

1. Lower strap cost per loom hour
2. Less loom downtime for strap breakage or adjustments
3. Improved shuttle performance
4. Increased production capacity

Made from Tannate Special Leather, Tannate Hairon Checks guarantee their superiority. They're strong and resilient with better surface friction. No matter how you measure it, Tannate Checks assure improved loom operation.

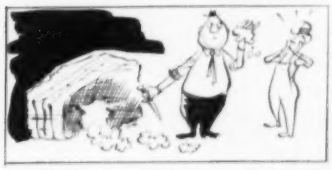
2100 W. 11th St., Wilmington 99, Del.

Atlanta • New York • Chicago

RHOADS
INDUSTRIAL LEATHERS

News in Brief

Bale Sampling Most Destructive. Cutting holes in bales of cotton for samples is "the most destructive practice in the cotton industry" as far as the package is concerned, according to J. Russell Kennedy, executive vice-president of Calcot, Ltd. A possible solution suggested by Mr. Kennedy is the use of an automatic sampler developed more than ten years ago by the U. S. Department of Agri-



culture. The sampler takes eight or ten samples from the lint flue while the cotton is being ginned. The small samples are combined into a one-pound sample in a paper sleeve. The sample is cut in half, and one half goes to the government classing office and the other to the grower [see TEXTILE INDUSTRIES for January, 1957, pp. 80-81].

Automatic Skein Packaging. A new British machine automatically winds, cuts, labels, and packs pull-out stranded cotton (or other fiber) skeins in lengths up to 25 feet. The manufacturers, Stowe & Partners Ltd., Croydon, England, are understood to have shipped two of the machines to the U.S.A.

Yarn Imports Banned. The Republic of the Philippines has banned all importation of cotton weaving yarns, to protect the domestic weaving yarn industry operated by the government.

To License Tufted Process. Tufted Patterns, Inc., Atlanta, Ga., will shortly begin licensing manufacturers to produce high-and-low pile tufted carpeting and other tufted products under patents held by the firm.

Japanese Retire Looms. The Japanese government purchased 11,000 cotton looms and 5,000 silk and rayon looms from the industry last month, to bring production capacity into line with export requirements. This is part of a continuing program which calls for retirement of 52,000 cotton looms and 33,000 rayon looms by 1960.

Cause of Overproduction? "We personally believe if those mills which geared their operating schedule to six days of three shifts had run a five-day week, many of our ills would not be with us. In

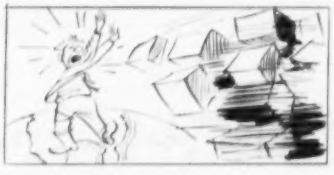
normal times our domestic consumption cannot consume the output of mills running six and seven days a week."—*Fred Lyon, president, Opp and Micolas Cotton Mills, Inc.*

Canada Hits Billion. Investment in Canada's primary textile industry now totals about one billion dollars, according to the Primary Textiles Institute.

More Tariff Reductions? Department of State negotiators will confer with representatives of European GATT countries in June, and with those of Japan, United Kingdom, and others in October. Those desiring to make statements to the Committee for Reciprocity Information concerning the October negotiations should do so by July 31.

Textile Outlook. Weaving mills' earnings in the first half of 1957 are likely to make a poor showing, but better results may be achieved later in the year, according to *The Value Line Investment Survey*. The latter prediction is based on the growing movement for a shorter work week, in effect reducing over-all excess capacity; minimizing of the threat from Japanese imports; and recognition within the industry of the need for more dynamic merchandising programs. For the longer term (1959-61), the *Survey* foresees substantially larger earnings and improved dividend rates for the industry.

Wool Men Ask Import Curb. The Wool Manufacturers Council of the Northern Textile Association has called for a "comprehensive program by the Federal Government to bring about curtailment of woolen and worsted imports." According to the Council, imports of woolens and worsteds have in-



creased 800%, and in some categories 1200%, since tariff cuts ten years ago. While the U. S. industry has dwindled to one-half its former size, the Japanese have built an industry almost twice as big as that in the United States, and are taking an increasing share of the domestic markets.

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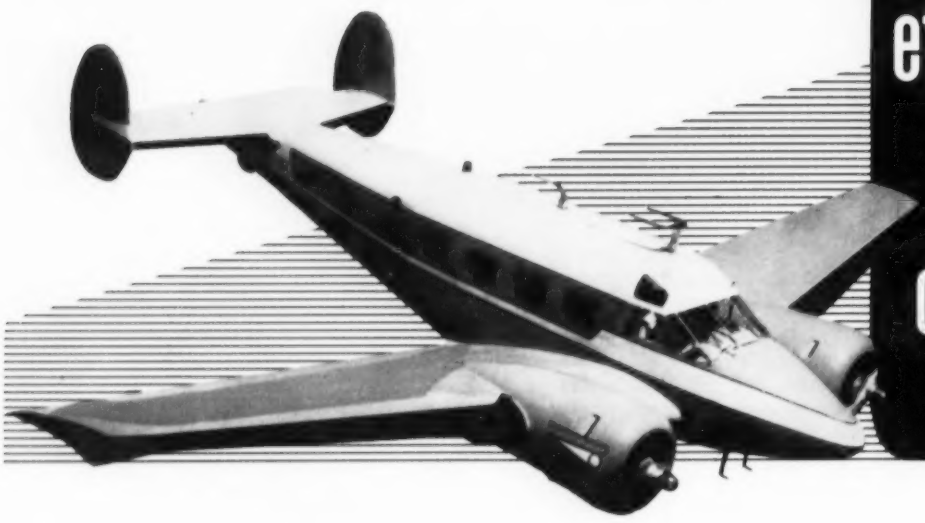

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airfleet of the textile industry

Textile Employment Down. The Bureau of Labor Statistics reports that an average of 960,000 production workers was employed by the textile-mill products industry in 1956, compared with 982,000 in 1955.

Market Conference to NYC. The first market research conference on textiles, sponsored by the National Cotton Council, will be held in New York City on May 28 and 29, instead of in Washington, D. C., as previously announced. Details of the program will be available later.

Insurance for Knitting Executives. A group life insurance plan for executives and key personnel of member firms of the National Knitted Outerwear Association has been announced. No medical

examination is required, and there is no age limit. Premiums paid are deductible from corporate taxable income, and are not taxable to executives covered under the plan.

"Shetland" Misuse Cited. The Federal Trade Commission has ruled that the term "Shetland" and similar terms ("Shetland Type," etc.) can be applied to fabrics and garments only if they contain wool of the distinctive breed of sheep grown on the Shetland Isles or the neighboring mainland of Scotland. Other usage will be deemed misleading.

Paper from Synthetics. Commercial production of paper (actually a "nonwoven bonded paper-like structure") from nylon, Dacron, and Orlon is foreseen within a year by the Du Pont Co. High strength, resistance to degradation, and durability are expected to enable the product to overcome a price disadvantage in relation to conventional papers in industrial end uses and in the apparel and home furnishings markets.

Army Quality Control. The Department of the Army has announced that after July 15 all clothing items purchased by army personnel, except for QM items, must bear a certificate number or warranty from the Uniform Quality Control Office, Natick, Mass. Suppliers may obtain a certificate from that office by submitting samples by mail *only*.

Nonbaggy Cottons? National Institute of Dry Cleaning will investigate methods of applying a crease-retaining finish to cotton garments with standard dry

cleaning equipment [see TEXTILE INDUSTRIES for Dec., 1956, pp. 99-100] under a research contract with the U. S. Department of Agriculture.

News in Brief

Cold Dyeing of Wool. A method for dyeing wool in the cold by the addition of solvents to the dyebath has been developed by re-

searchers at Leeds University, England. The method is also claimed to be applicable for dyeing with pigments which are insoluble in water.

PTI Notes. The Philadelphia Textile Institute is considering broadening the scope of its courses to include subjects other than textiles in its curriculum, and changing its name to Philadelphia Col-

The Industry Needs Wash 'n Wear Standards—Stam

One of [the finisher's] most urgent problems is the absence of standard methods for the evaluation of [minimum care cellulosic fabrics]. We have no generally accepted yardstick to differentiate the poor performance from the good and the result is that our efforts are often not evaluated on their merits but rather on the promotional effort which accompanies their sale. We find ourselves using adjectives instead of numbers.

In my opinion this is more often true in the cellulosic field than in the field of man-made fabrics. In Dacron blend fabrics, for example, we have begun to associate a rather definite range of fiber composition with an acceptable level of minimum care performance.

In cotton and viscose fabrics on the other hand, we can find an almost continuous spectrum of fabric properties ranging from only minor improvements over pure finish to the most extensive chemical modification, all parading under the banner of minimum care fabrics. Technical progress will be slow and confused until the industry adopts standard rating methods.

Dr. Stam

Personally, I believe that the approach of the AATCC Wash-and-Wear Committee, although slow and tortuous, will ultimately evolve an acceptable method. In the meantime the merchants can continue to have their field day.—*Paul B. Stam, Burlington Industries, at a recent symposium on minimum care fabrics.*

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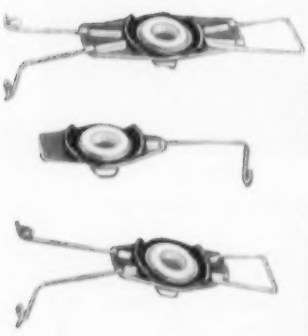
Special Flyers



HERR Flyers produce light tensions at high speeds, perfectly balanced for accurate yarn control and reduced vibration.

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EARNINGS IN WOMEN'S SEAMLESS HOSIERY MILLS
April, 1956

Sex and Occupation	United States Number of Workers	United States Average Hourly Earnings	Southeast Average Hourly Earnings
Men			
Adjusters & fixers, knitting machine (4 or more years' experience)	664	$2.09	$2.18
Boarders, other than automatic	107	1.40	——
Knitters, automatic	685	1.56	1.58
Women			
Boarders, other than automatic	38	1.17	1.14
Boxers	25	1.33	1.58
Examiners, grey (inspectors, hosiery)	665	1.31	1.38
Folders and boxers	173	1.33	1.33
Knitters, automatic	448	1.28	1.30
Loopers, toe (1 or more years' experience)	1,933	1.47	1.48
Menders, hand, finish	123	1.37	1.37
Menders, hand, grey	269	1.19	1.23
Pairers	439	1.34	1.37

Source: U. S. Department of Labor, through National Association of Hosiery Manufacturers.

lege of Technology. * * * Ground has been broken for a new wing of the Institute's Hesslein Library. * * * Knitted Outerwear Manufacturers Association has given an unrestricted gift of $3,000 to the PTI Foundation. * * * Pennsylvania District of KOMA is sponsoring a course for payroll clerks at the Institute. Twenty students are enrolled, and will meet for eight consecutive Monday evenings.

Methods Improvement Contest. The Industrial Management Society will again sponsor a Methods Improvement Contest in conjunction with the 21st Industrial Engineering and Management Clinic, to be held in Chicago Oct. 30 to

Nov. 1. Trophies are awarded to industrial plants and schools presenting the best 16 mm films describing before and after phases of methods improvement projects. Further information may be obtained from the Society, at 35 East Wacker Drive, Chicago 1, Ill.

Stop Subsidizing Cotton. The price of cotton should be taken out of domestic politics and be treated on a basis that is consistent with competitive fundamentals, according to Lester Martin, president and chairman of Bates Mfg. Co., in a recent letter to Secretary of Agriculture Benson and Secretary of Commerce Weeks. As a starter, surplus cotton should be made available to American manufacturers for weaving of cloth for export, he said. Noting that employees at Bates have recently been asked to take a wage cut and/or curtailment of operations, Mr. Martin called for removal of the present 7¢ per pound premium which domestic mills are forced to pay for their cotton, with resulting benefits not only to the textile industry but to the farm community as well.

Clemson Field Service. The School of Textiles at Clemson College has appointed a field representative to coordinate the needs of South Carolina's textile industry with the activities at the school. His duties include encouragement of interest in textiles by potential students, arrangement of summer employment for textile students, and coordination

News in Brief

of the research program at Clemson with the industry's needs. The current field representative is H. Betts Wilson, assistant professor of textiles.

Automatic Ribbon Machine. A "revolutionary" shuttleless automatic ribbon machine is included in the textile machinery exhibits to be shown at the Swiss Industries Fair in Basel, Switzerland, April 27 to May 7. Textiles and wearing apparel will also be on display in two special exhibits, "Creations," and "Madame-Monsieur."

Bedspread Standards. Large-size bedspreads will come under the standards in effect for regular-size spreads, according to the Tufted Textile Manufacturers Association. Sizes to be included are 98 x 108, 120 x 120, 104 x 120, and 120 x 108.

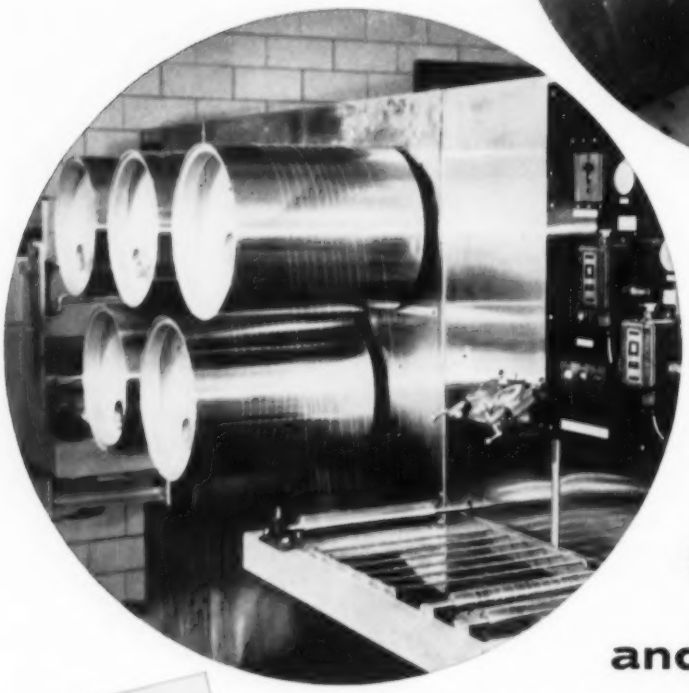
Statistics Course. The Institute of Statistics at N. C. State College will sponsor a one-week intensive short course in statistical methods for research workers during the

week of June 3 at Brevard (N. C.) College. There will be elementary and advanced sections, with attendance limited to 50 in each. For further information, write the Institute, at Box 5457, Raleigh, N. C.

Factoring Facts. A pamphlet, "How Factoring Companies Help Small Business," by Morton Goodspeed of William Iselin & Co., Inc., is being distributed as a public service by and may be obtained from National Small Businessmen's Association, 801 Nineteenth St., N.W., Washington 6, D. C.

Hosiery Standards. Minimum standards of measurement for stretch socks and anklets, de-

in the **DYE TUBS** *and* **BLEACH**



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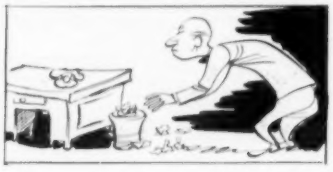
Warehouse stocks carried by all Ryerson steel plants

veloped by the National Association of Hosiery Manufacturers, have been submitted to the U. S. Department of Commerce for issuance as a Commercial Standard. * * * NAHM is working with Patentex, Inc., holder of patents for women's stretch hosiery and the yarn from which it is made, in development of standards in that field.

Waste Committee Formed. A committee to study the problem of disposal of dye and chemical wastes in the city of Reading, Pa., has been formed by the Manufacturers Association of Berks County, which includes nearly all tex-



tile operators in the vicinity. The city is planning a sewage plant enlargement; to treat textile wastes and at the same time comply with state health requirements would be prohibitively expensive, according to city officials.

High-Pile Tricot? Knitting of high-pile fleece fabrics on tricot machines is reported to be under development. Short-pile tricot fabrics have been successfully produced in the past.

Label Orlon, Dyers Say. Mixing of yarn lots of Type 42 Orlon and the newer, more dyeable Orlon is reported to be causing some difficulties at dyehouses doing sweater and strip dyeing. Dyers are asking customers to indicate on bundles whether the Orlon is of the older or of the newer type.

Cotton Trade Conference. The International Federation of Cotton and Allied Textile Industries will hold a world conference in Venice, Italy, Sept. 22 to 28. Its purpose will be to study the present state of trade and future prospects of the cotton and allied textile industries in the major manufacturing areas of the world. About 300 delegates from Western Europe, the U.S.A., Egypt, India, and Japan are expected to attend.

Wool Men Spurn Subsidy. In reply to a request by the U. S. Department of Agriculture for suggestions on research, with the expense to be shared by the industry and the government, or paid entirely by the government, the National Association of Manufacturers has replied, "Such research projects as would serve the stated purpose, the increase of efficiency and the reduction of costs, should be pursued under the direction of the industry, at the expense of the industry rather than the taxpayer."

AF Dye Formulas. Dyeing formulas for producing U.S. Air Force Shade Blue 84 on viscose, nylon, Dacron, and Orlon have been developed at Lowell Technological Institute Research Foundation under Air Force contract, and are available in a 110-page book from the Office of Technical Services, U.S. Department of Commerce, Washington 25, D. C., for $2.75. Ask for PB 121756.

News in Brief

Workers Paid With Cartwheels. The 5,000 textile workers in Cherokee County, S. C., were paid in silver dollars during the "textile appreciation" observance

March 14 to 16, to emphasize the importance of textile wages to the area. More than seven and one-half tons of silver were required for the pay rolls.

Illness Costs. Prolonged illness (lasting more than four weeks) costs employees in private industry $800 million annually in personal medical expenses and lost

Promotion for Wash 'n Wear

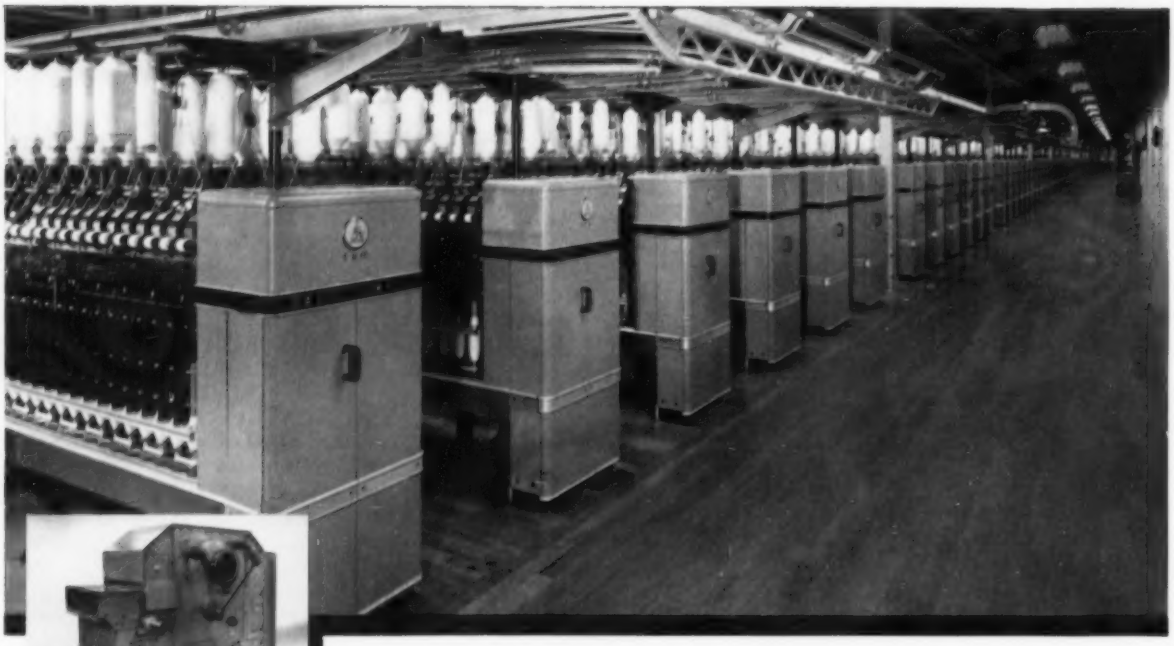
Minimum care fabrics are certainly in [a] period of growth. Du Pont estimates that retail wash and wear sales . . . . have increased from $45 million to $285 million in men's wear alone in the last four years. And the amount of advertising and promotion we see, in both the consumer and trade press, about minimum care performance, indicates that the industry and the apparel manufacturers recognize the great opportunities for this fabric classification.

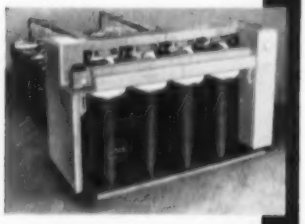
It's an interesting fact about our economy that as people move into higher income brackets—and millions of them are—they do not automatically take on the same desires, beliefs, and standard of living of the income group into which they have moved. They have to be activated—and advertising is perhaps the strongest force that provides that necessary activation.

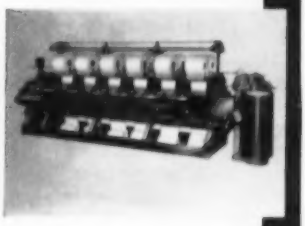
The new pattern of living into which so many millions of Americans are moving offers a natural opportunity for [minimum care] fabrics: more and longer vacations, the trend to suburban living, reflected in sportswear and leisure-type clothing, more travel, and greater control over climatic conditions in which we work and live. Further, there is more disposable income to purchase convenience products that in turn allow for more leisure time because of the minimum care they require—all these factors help foster a market that is just made to order for garments of the minimum care type.

So—we have a market that is ready, and a product that is at the stage of growth when it can benefit the most from good promotion.

Let's be sure the product is good—and that the advertising is also good. Together, it's an unbeatable combination. The industry has made enormous strides in developing and improving the product, and it is important to the future success of these fabrics that they be properly and fairly presented to the consumer.—*William P. Wright, Jr., vice-president, J. Walter Thompson Co., at a symposium on minimum care fabrics.*







PROFITABLE MILL OPERATION STARTS WITH A SACO-LOWELLIZING PROGRAM

"Competitive position" — these are the words being uttered daily in mill management meetings. They have to do with many things — efficiency, production per man hour, quality, operating costs, waste control, and profits.

Mills throughout the country have started their move toward "Better competitive positions" with a SACO-LOWELLIZING PROGRAM. Specifically, the SACO-LOWELLIZING PROGRAM helps you make better use of floor space, thereby improving production flow; it coordinates the successive steps in processing; reduces waste, spoilage and unnecessary handling of stock; and, helps you realize the greatest economies in operating and maintenance costs.

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ESTIMATED NUMBER OF COTTON SPINDLES IN PLACE
July 31, 1956
(000's omitted)

Continent	Spindles In Place	Spindles Being Erected a	Spindles Being Erected b	Cotton Spindles on Rayon 100%	Cotton Spindles on Rayon Blend
Europe	68,895	92	337	2,330	1,846
North America	24,303	42	15	1,314	269
South America	5,436	160	57	46	12
Asia and Oceania	31,666	1,853	214	630	247
Africa	1,040	52	3	48	14
TOTALS	131,340	2,199	626	4,368	2,388

a—As an increase
b—As a replacement of existing machinery
Source: International Federation of Cotton and Allied Textile Industries. For July 31, 1955, estimate, see TEXTILE INDUSTRIES for May, 1956, p. 85.

wages, and about $2 billion in production time is lost, according to results of a five-year study of non-occupational illness made by the Research Council for Economic Security. Net cost to the average worker in the study was 13 per cent of his normal year's earnings. Production loss is the equivalent of 453,000 man-years. Copies of the complete study, "Prolonged Illness-Absenteeism," are available from the Council, at 111 W. Jackson Blvd., Chicago 4, Ill., for $10.

Reduce Velveteen Exports. Italy has agreed to reduce to a maximum of 1,375,000 yards the amount of velveteen shipped to the U.S. this year. American imports of Italian velveteen have averaged about 1,800,000 yards annually during the past several years.

News in Brief

Local PR Necessary. A textile man notes that some mills feel that membership in the American Cotton Manufacturers Institute is all the public relations program that they need, since ACMI has a department to handle public relations for the industry. However, this source emphasizes that local problems call for local handling, and cannot be solved by the industry's over-all public relations program.

Seek Softer Cottons. Research aimed at developing cotton fabrics with added luster and smoothness has been initiated at the School of Textiles, N. C. State College, under contract with the U. S. Department of Agriculture. Methods to be evaluated include impregnation with resins, chemical modification, and application of swelling agents.

MERCHANDISING NOTES

American Cyanamid Co. has under development "Cyana Purifying Finish," designed for application to fabrics and garments to inhibit growth of bacteria and so prevent "b.o." [See page 153 of this issue of TI].

American Felt Co. is now producing chemically shrunk Orlon felts on a commercial basis in weights from eight ounces to eight pounds per square yard.

Joseph Bancroft & Sons Co. has obtained product and process patents on a "Chlorophobic" finish for imparting minimum care characteristics to cottons and fabrics of other cellulosic fibers, together with resistance to retention of chlorine from bleaches. Textiles using this finish will be marketed under the name "Keetide."

Borlan Corp. is marketing a new resin finish, "Protekta," to protect uniform fabrics from food and beverage stains.

Celanese Corp. of America predicts widespread use of soft goods crepes for women's apparel next fall, based on volume commitments expected by converters from the better dress cutting houses.

Corduroy Council of America has complete swatch cards of its members' 1957 lines available for inspection at its New York offices; fashion highlights in the apparel and home-furnishings fields are also displayed.

Du Pont Co. reports that a survey conducted by National Family Opinion, Inc., shows strong consumer acceptance of the 65 per cent Dacron-35 per cent cotton blend in dresses, blouses, slips, and men's shirts. Ease of care and neatness retention are the best-liked qualities.

Hallmark Needle Crafts, Inc., is marketing a do-it-yourself kit for tufted bedspreads in various qualities retailing from $16.95 to $23.95. Jeannine Parris, Miss Georgia of 1955, is demonstrating the kits to customers at department stores throughout the country.

National Association of Hosiery Manufacturers has adopted a "Seal of Approval" program for men's, children's, and infants' hosiery.

National Cotton Council reports that programs promoting increased sales of cotton products are now under way in twelve foreign countries, with six more preparing or considering such programs.

Patentex, Inc., a joint company formed by Burlington Hosiery Co. and Chadbourn Gotham, Inc., has embarked on a program of advertising and promotion of women's stretch hosiery. The firm holds basic patents on sheer stretch hosiery and yarns covering 90 per cent of U. S. production. All royalties received in 1957 from licensees will be used in the promotional effort.

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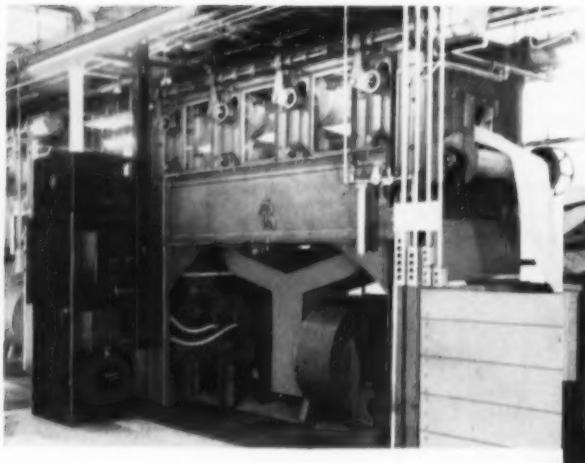
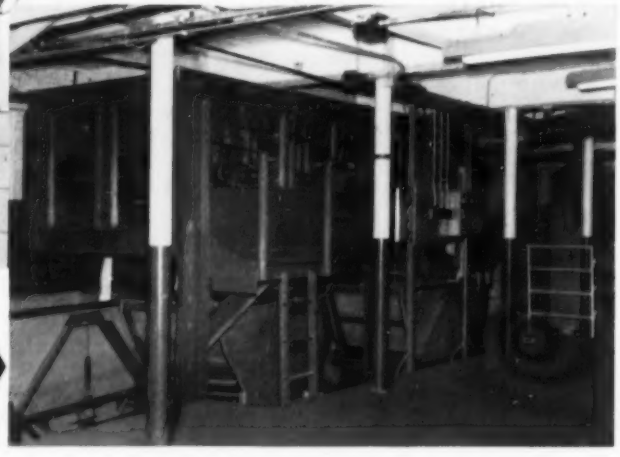
Protect Your Profit Figures

In many plants for many years, R & L Continuous Crushers have set the standard for reliable operation—and *only* R & L engineering has developed the know-how to offer improvements on their superb performance.

While these machines deliver cloth at the production rate of the carbonizing range, the actual crushing speed in the machine is better than 200 yards per minute. A high efficiency is created through this increased speed and the reversing action which alternately crushes with manifold pressure nips, then whips vigorously to get rid of dust. Performance is automatic — needs practically no attention because balanced scrays stop the machine if cloth supply gets out of balance with capacity, thus safe-guarding your material.



MODEL CCT4 is a dual unit automatic continuous crusher of 2 units in tandem.



MODEL CCNB4 is a single unit automatic continuous crusher of same capacity as our dual unit.

These Continuous Crushers make possible one single continuous operation of acid soaking, drying, baking, and crushing. Continuous neutralizing machine is available to run in tandem with them if desired.

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AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Can you run a lemonade stand?

THE TIME was much more recent than once upon when two little boys of less than a decade lived across the street from one another and were the best of friends and had the utmost confidence in each other. By morn they schooled together, by eve they played together, and by sleep they dreamed of each other and the tomorrow.

Their names were Joe and Bill.

Came summer time and continuous play, and the needs of little fellows of less than a decade found their income little enough but much under their requirements, so Bill went into business.

He opened a lemonade stand.

His serving counter was a wooden box, his lemonade container was his mother's largest water pitcher, and his cash register was a cigar box.

His price was a nickel a glass and his business was fair to middling.

Joe who lived across the street watched with interest this fair to middling business of friend Bill and even was an occasional customer. But seeing Bill's business increase, and just as large chain and department stores so often do, Joe opened a similar lemonade stand just across the street and opposite Bill's lemonade stand.

His price was a nickel a glass too and without collusion.

Thus Joe and Bill who lived across the street from one another, who played together all day long, who dreamed together of the tomorrow, and who were the best of friends and had the utmost confidence in each other became competitors.

The customers for the most part were those people who traveled along the street regularly on their way to work or shop and the other neighborhood children who were not in the lemonade business. But, whereas the local lemonade business had all been Bill's because he had a monopoly in the lemonade trade, with the inception of Joe's lemonade stand just across the street the trade was divided so that in due time Bill was not doing a fair to middling business, but only a middling business.

Joe did about the same, but since Joe had not known better business, he thought that he was doing very well in the lemonade business and knew that his profit was a fair one considering the immaturity of his establishment.

Not so with Bill who had started the lemonade business on his block and who once had all of the trade. He had known better times, he had had more customers, and it was his full intention to reinstate himself in the lemonade market and if possible recoup his former position even if it meant that Joe was put out of business because of Bill's actions.

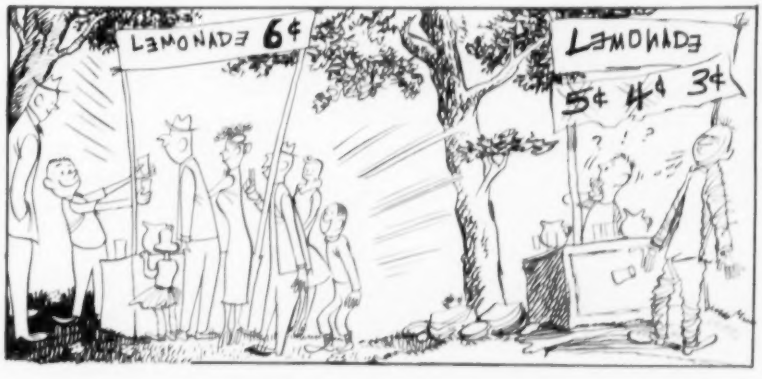
SO BILL borrowed several large containers from his mother and made up enough lemonade to last all day and enough lemonade to serve all of the local customers for a day or even for a day and the following tomorrow. This was a departure from his usual practice of making a fresh pitcher of lemonade as the demand for lemonade required.

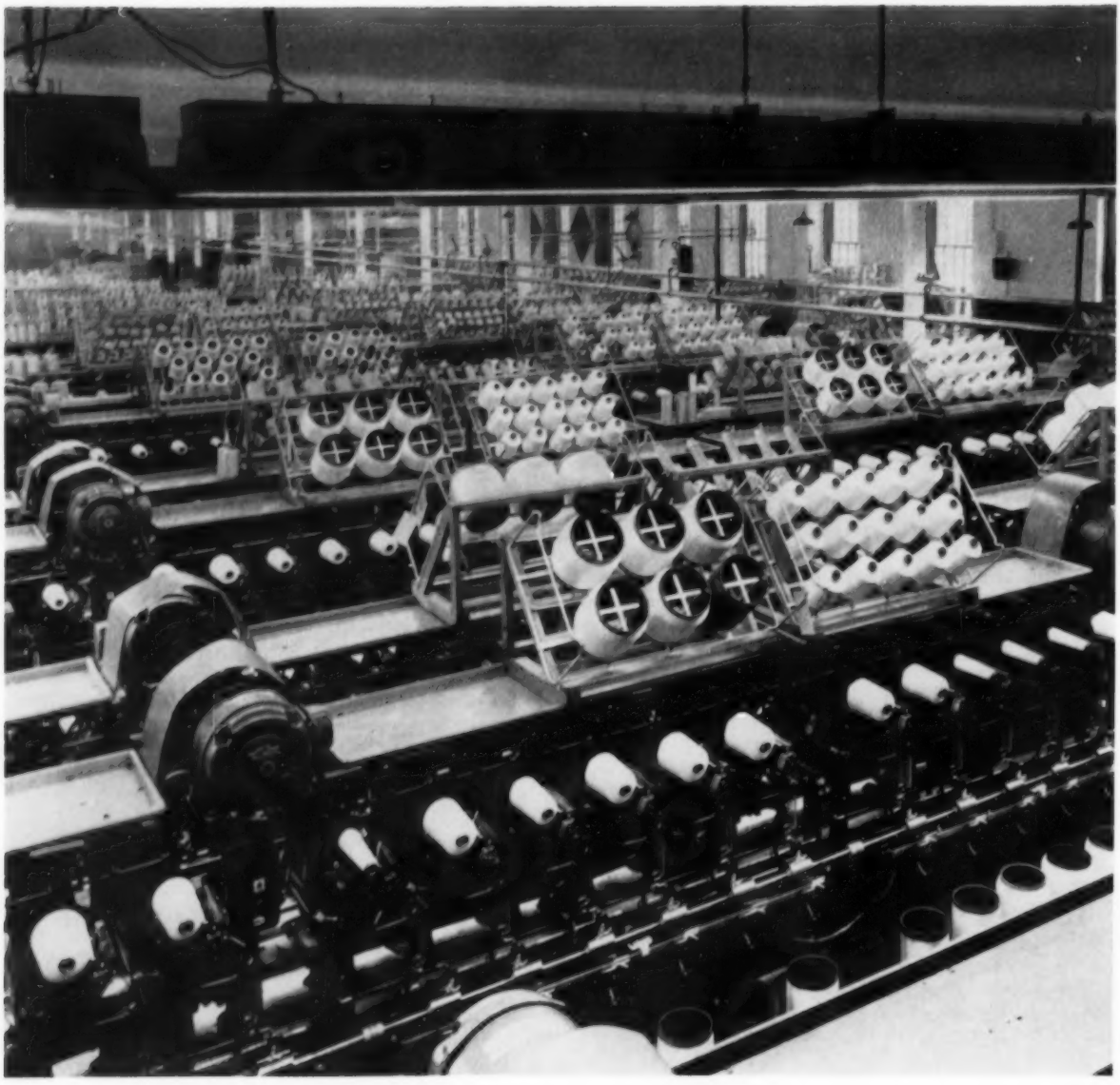
Also, in preparing the greater quantity of lemonade, he became more fluent in his addition of water than he did in his addition of lemon and sugar.

But he had a lot of lemonade.

He then reduced the price of lemonade from a nickel to four cents a glass and settled down behind his stand to take care of customers on the one hand and to watch Joe go out of business on the other hand.

For the reader to understand the





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intricate business of manufacturing lemonade, it must be explained here that the ingredients consist of lemons, sugar, and water. The lemonade mix is stirred with a spoon and iced.

With that lengthy and detailed description of lemonade manufacturing behind us, we return to our story of Bill and Joe, the two little boys of less than a decade who lived across the street from each other, who played together by day, who dreamed together by night, who were the best of friends and had the utmost confidence in each other, and who became competitors in the lemonade business.

It so happened that both Joe and Bill purchased their lemonade ingredients from the same store. Thus the two former friends and later two competitors in the lemonade business had access to the same sugar, the same lemons, the same ice, and the same water, all of which are so essential to the lemonade business and all of which were purchased without benefit of contracts, guarantees, or the services of a purchasing agent or even a visit from a technical service representative of the sugar, lemon, and ice supplier to a lemonade business run by boys of less than a decade whose serving counters were wooden boxes and whose cash registers were cigar boxes.

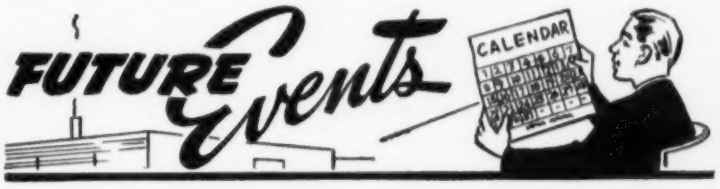
With Bill's 20% reduction in the price of lemonade, he was able to draw a part of Joe's trade back across the street, so that for a short time it appeared that Bill had hit upon the secret of success, and as a matter of record his business did improve from middling to just about fair to middling.

Bill noted that although he had improved his business, there were several complaints in the trade that the strength of his lemonade appeared to be shy. Bill also noted that after his initial recoup of business which followed his price cut, that business became bearish day by day until he no longer had a fair to middling trade or even a middling trade, but more nearly a strict good ordinary trade.

On the other hand, Joe's business had become not strict good ordinary, not middling, and not fair to middling, but some days was strict good middling and on others middling fair.

SO BILL, during one of his slow trading times which were becoming more frequent than not, walked across the street to pay Joe a friendly visit and incidentally to learn the secret of Joe's lemonade manufacture and his secret of getting new customers and retaining the old.

Joe received his friend and lemonade competitor in the best of



Date		Event	Location
May	1-2	Fiber Society spring meeting	Clemson House Clemson, S. C.
	1-4	Cotton Manufacturers Association of Georgia annual convention	Emerald Beach Hotel Nassau, Bahamas
	4	Alabama Textile Operating Executives spring meeting	Thach Auditorium Auburn, Ala.
	9	National Association of Woolen Manufacturers annual meeting	Waldorf-Astoria New York, N. Y.
	10	Northern New England Section AATCC	Lowell Tech. Inst. Lowell, Mass.
	11	Piedmont Div. Southern Textile Association spring meeting	Catawba Country Club Hickory, N. C.
	17	Hudson-Mohawk Section AATCC	Schuyler Meadows Albany, N. Y.
	17	Western New England Section AATCC	Waverly Inn Cheshire, Conn.
	17-18	National Association of Woolen and Worsted Overseers semi-annual convention	Bancroft Hotel Worcester, Mass.
	20-25	National Cotton Week	
	23-26	Pennsylvania Dist. Knitted Outerwear Manufacturers Association annual meet and outing	Concord Hotel Monticello, N. Y.
	24	Delaware Valley Section AATCC annual outing	Torresdale-Frankford Country Club Philadelphia, Pa.
	24	New York Section AATCC	Kohler's Swiss Chalet Rochelle Park, N. J.
	28-29	Market Research Conference, sponsored by National Cotton Council	Hotel Statler New York, N. Y.
30—June	1	South Carolina Textile Manufacturers Association annual meeting	The Cloister Sea Island, Ga.
30—June	1	Tufted Textile Manufacturers Association annual convention	Fontainebleau Miami Beach, Fla.
June	7-9	Southeastern Section AATCC annual outing	Radium Springs, Ga.
	7-9	Piedmont Section AATCC annual outing	Mayview Manor Blowing Rock, N. C.
	14	Western New England Section AATCC	Wallingford, Conn.
	14	Rhode Island Section AATCC outing	Warwick Country Club Rocky Point, R. I.
	14-15	Midwest Section AATCC outing	Brown's Lake Resort Burlington, Wis.
	20-22	Southern Textile Association annual meeting	Ocean Forest Hotel Myrtle Beach, S. C.
	21	Hudson-Mohawk Section AATCC outing	Antlers Country Club Amsterdam, N. Y.
	21-22	South Central Section AATCC outing	Lookout Mountain, Tenn.
Sept.	4-6	Fiber Society meeting jointly with members of Textile Institute	Hotel Statler Boston, Mass.
	26-27	Combed Yarn Spinners Association annual meeting	The Cloister Sea Island, Ga.
	28	Textile Operating Executives of Georgia fall meeting	Ga. Tech. Atlanta, Ga.
Oct.	2-3	Chemical Finishing Conference	Hotel Statler Washington, D. C.
Nov.	14-16	AATCC National Convention	Hotel Statler Boston, Mass.

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cordiality. But Bill learned no secret method of manufacturing lemonade from Joe, mainly because Joe had no secret method.

He was manufacturing lemonade just as lemonade has been manufactured for ages, and most certainly had been manufactured during the less than a decade that Bill had been in this world.

Bill did make a mental note that whereas Joe had not changed his lemonade manufacturing methods, he, Bill, was manufacturing lemonade a bit differently and though he used about the same number of lemons and about the same amount of sugar, he managed to get into the mix a good bit more water, but then he knew that he could afford to use more water because water was inexpensive and his lemonade containers would hold more water than Joe's because his were bigger.

Bill continued to eye the increasing lemonade business of Joe and he had more and more time on his hands to ponder over his own decreasing lemonade trade.

And his inventory of lemonade was heavy.

If Bill continued to remain in the lemonade business, action of some sort was deemed necessary. So he cut his price to three cents a glass, and made up a tremendous batch.

He then discovered that though he could sell some lemonade at three cents a glass, it cost him more than three cents a glass to make it, even if water was inexpensive.

Across the street Joe's business had become what Bill considered to be fantastic, this despite the fact that Joe had increased his price to six cents a glass.

Bill became so idle in his own lemonade business that he could spend practically all of his time watching Joe.

Bill knew that Joe never had any lemonade left over at the end of the day because he only made a pitcher at a time. He also heard Joe explaining to each new customer how he made his lemonade in small batches to keep it fresh and so that it did not become diluted.

So what, Bill thought, everybody knows that.

He heard Joe tell how carefully he washed his glasses after each use. So do I, thought Bill; such talk is a waste of time.

And he heard Joe tell how he carefully selected his lemons at the store because some lemons were better than others. A further waste of time, thought Bill, a lemon is a lemon and would be as sour by any other name.

When Bill finally went out of the lemonade business because there was no business at a profit and no need to stay in business at a loss, as any father would, Bill's father was interested and asked him to tell the full facts of his lemonade business liquidation.

Bill related the entire story of his adventure in lemonade pretty much as you have read it.

His father made no comment; only stared into space. The silence was unbearable, and Bill just had to break it:

"By the way, Dad," he said, "Does the noise of those looms ever bother you?"

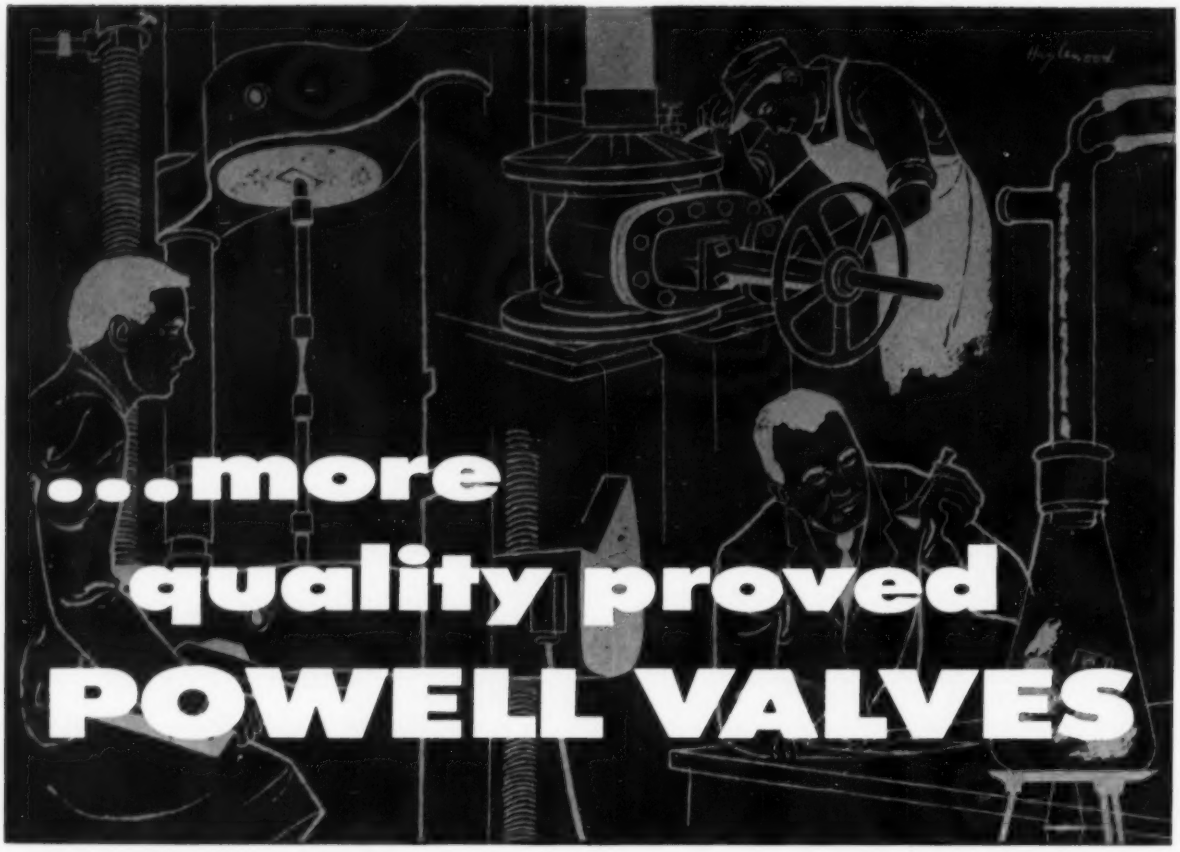

FIG. 2309—Flush Bottom Tank Valve for 150 Pounds W.P.

FIG. 2491—Stainless Steel O.S.& Y. Gate Valve for 150 Pounds W.P.

FIG. 1886—Stainless Steel Liquid Level Gauge for 350 Pounds W.W.P. Offset pattern.

FIG. 2107—Stainless Steel "Y" Valve for 150 Pounds W.P.

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When running stock or dope-dyed staple, segregation of colors is a "must"

STOP LOSING CUSTOMERS

because of contamination. Use plastic or glass screens to control fly in the mill

by Joseph H. Rohs
Chicopee Mills, Inc.

Exclusive

Migration of fly or fuzz from yarns being processed on the twister at the extreme right to those on the beamer at the left and vice versa is prevented by the floor-to-light-fixture screen pictured here. Fly is attracted to and contained by the screen material which is woven of Fiberglas coated with vinyl. Of open mesh construction, the fabric does not interfere with air circulation and humidity control.

FLY, always a nuisance in textile plants, can be a real problem where stock dyed or dope dyed staple is run in close proximity to undyed or natural staple. Cross contamination of different synthetic fibers can cause difficulty with yarns intended for subsequent yarn dyeing or piece dyeing.

Colored fibers intermixed with natural fibers can result in degradation of quality, customer complaints, and, in severe cases, in second-quality yarns and fabrics. Factually, the finer and lighter the fiber the greater the problem of fly and the greater the distance the foreign fibers will travel on the natural convection flow of air.

While this problem is encountered to some extent in all textile operations, it should be controlled in the card room where it is most severe, and where it causes the most difficulty. Fly—in high concentration during the normal carding operation—is increased when the card is stripped. The newer vacuum type strippers, although they help a great deal, are not the complete solution.

One traditional approach to the problem is partitioning; and the most common partitions are wood, generally solid, but sometimes slatted, extending about 8 feet above the floor. Partitions of canvas, or lighter cotton fabrics, hung loosely as drapes between columns

Portable screens, like the one pictured here, are convenient for enclosing machines on which special or experimental runs are being made; also for temporary uses, as in cleaning a card, loom, or spinning frame. Saran screen is recommended for this application since it cannot readily be deformed. The material may be either tacked or stapled to the rigid wood frame.

or fastened to frames are also used.

Cloth suspended from the ceiling or from the roof beams and ending 8 to 10 feet above the floor is somewhat effective in that it collects the fly that is carried upward by natural drafts. However, such partitions are awkward to clean and do not entrap the air-borne fibers which are propelled by the moving parts of the equipment itself.

TO COMPLETELY contain the floating fibers, the area surrounding each card must be completely enclosed from floor to ceiling—this is a costly procedure. It is also impractical because such complete enclosures seriously impair the control of humidity and limit air circulation.

Partial partitions, extending upward from the floor, or hanging down from the ceiling, do permit proper humidity control and allow for some air circulation, but are not completely effective in the control of fly.

Whether the necessity for control of fly is a continuous requirement, as in the card room, or occasionally when a spinning frame or loom is cleaned, there is a practical and inexpensive solution to the problem with the use of an open mesh screen material.

Optimum conditions can be obtained by completely enclosing the card if necessary, with saran screen or with Fiberglas screen. Fly is attracted to and contained by the screen enclosure, and at the same time air circulation and humidity control are not impaired.

Both saran and fiber glass screen are inexpensive, lightweight, flexible, and easy to handle. They are nonrusting and noncorroding as well, and retain a neat workmanlike appearance because they do not dent or bulge.

The exact form an enclosure should take is best determined by the requirements and conditions of each plant. Enclosures have been fabricated in several forms and in several sizes. The simplest and most generally used—where floor to ceiling distance is not too great and where adequate aisle clearance exists—is a screen partition between each individual piece of equipment.

Stringers between columns or from wall to wall act as supports. The screen is either overlapped between vertical sections or fastened to light wood intermediate supports between vertical sections. It may also be sewn together, section by section, to make one large panel which is then fastened to the stringers and columns with tacks or staples.

In fastening the screen in place, it should be stapled or tacked on 2″ centers. A more secure fastening is obtained if the cut edge of the screen is turned back on itself about a half inch and the fold tacked or stapled to the stringers.

Where ceilings are high, the side walls can be carried up to a height

Where large, nonsupported areas are to be covered, Fiberglas screen is preferred because it is lighter—100 sq ft of the material weighs only 3 3/4 lb. Note here on the screen partition between departments of the mill how fly collects on it (arrow points to rolled-up fly). Vacuum cleaners can be used to clean screens from time to time. When thorough cleaning is not required, screen can simply be brushed off.

Staff photos made at Owens-Corning Corp.'s Anderson, S. C., plant.

of about 8 feet and a roof panel added. Supports may or may not be required depending, of course, upon the size of the roof panel. If a roof support is necessary, it can be of stringers or wires from column to column, or the roof panel can be laid from wall to wall.

A VARIATION of the rigid enclosure has been produced by sewing together a sufficient number of wide panels to form a four-sided enclosure which includes a roof panel made of the same material.

In this type of enclosure, the panels are sewn together selvage to selvage, and then to a wire or rope stayline around the periphery of the enclosure at the top. The roof panel is also sewn to this staywire and an entrance similar to a fly opening in a tent is formed by overlapping two side panels.

The completed structure is then supported from the roof or from columns by guy lines attached at the four top corners to the peripheral stayline. In the case of very large enclosures, center attachments may also be necessary on the four sides to keep the roof section reasonably taut and flat.

The bottom of such an enclosure is hemmed, and weighted with sand bags or metal rods so that the walls will hang straight. Since the walls are free-hanging, they can be easily moved aside and out of the aisle for sweeping, or for the passage of a truck.

IN SEWING the screen together, a lap seam is suggested. A 1″ lap sewn with cotton thread on a double-needle machine is adequate, and six to eight stitches per inch are recommended. If sewing equipment is not available, the work could be done at a local tent or awning shop.

Machine stitching is not absolutely necessary; the panels may be hand sewn together or sewn on an overedging machine. The handling of large panels presents no problem since saran or fiber glass is sufficiently light in weight.

For temporary use, as in cleaning a card, loom, or spinning frame, portable wood frames screened in the rigid structure as described above may be used. These light-weight panels can be mounted on narrow bases and casters, and arranged so that they hook together with screw eyes and hooks.

Such temporary structures are also used to screen in special or experimental runs. Normal air circulation carries the fly to the screen where it accumulates, and from which it can be cleaned. A vacuum cleaning procedure can be used to clean the screen from time to time. When a thorough cleaning is not required the screen can simply be brushed off.

In some mills the tent type of enclosure is designed to be disposable when the accumulation of fly interferes with normal air circulation. The enclosure, mounted so as to be readily detached, is removed and discarded, to be replaced by new screening.

Saran screen is elastic in character. It may be stretched out of position, but immediately resumes its original shape and size. It cannot readily be deformed and is, therefore, recommended when the partitioning screen is to be fastened to rigid frames.

Fiber glass screen is recommended where the tent or canopy type of enclosure is to be sewn together and hung without rigid supports. Unlike saran screen, fiber glass material is nonelastic, and dimensional stability is one of its outstanding characteristics.

After weaving, the crossover points of the weave in fiber glass screen are firmly fused to prevent shifting of the mesh. Because of this, it may be cut in odd shapes without fear of raveling and the fusing of the weave eliminates hemming at a cut edge.

Though both materials are light in weight, fiber glass, being the lighter of the two, is preferred where large nonsupported areas are to be covered. Fiber glass screen weighs about 3¾ lbs per 100 square feet. Either material can be sewn to itself or around supporting wires, and can be tacked or stapled to wood frames.

These screen materials, in an 18 x 14 construction, 60″ or 70″ wide, are usually used for the enclosure. Narrower widths are also used when necesary; in the few cases where a finer mesh screen is required, 20 x 20 mesh is used.

New uses for gasoline and explosives seen in powered shuttle for looms

■ Licenses will be offered under basic patents on power-driven shuttle mechanism for looms, it was announced recently by Dr. Worth Wade, of American Viscose Corporation.

According to one of the patents, No. 2,784,743, the shuttle of a loom is driven by means of a fluid propellant such as liquid or gas. A small gasoline cylinder is located at each side of the loom and the shuttle furnishes the compression cycle and actuates the spark for exploding the gas. This invention is expected to provide a non-automotive use for gasoline in the textile industry.

In an earlier patent, No. 2,682,895, the shuttle is driven by solid explosive charges fed to the shuttle propulsion unit by use of a paper tape.

A third invention now pending relates to time-delay mechanism for the power-driven shuttles.

The use of a power-driven shuttle is expected to eliminate about 35 moving parts on present looms, reduce the vibration, and increase greatly the speed of the loom. It will also be possible with power-driven shuttles to weave fabrics wider than those which can be woven with shuttles driven by conventional picker sticks.

According to Dr. Wade, the new shuttle can be incorporated in new looms or in existing looms.

Here are a few things to expect, and their corrections, if you are

Changing Over from Single to Plied

by Robert Bayles

Exclusive

Now and then it becomes necessary for a plant to change from a "good running" and familiar cloth style on singles filling to one which requires plied filling. This article is designed to aid those faced with that condition, and especially for those who have not gone that way before. . .

CHANGING a loom from singles filling to plied filling, especially to the heavier grades such as 12s/3 or 10s/4, will bring about a few changes in shuttle maintenance and in battery filling.

The changes may be planned ones, or they may be allowed to "appear naturally." Either way, changes will occur; and usually it is best to prepare the personnel for the changes. This is especially true if the loom change involves personnel not experienced with plied filling.

The battery fillers will be among the first involved. By and large most singles filling is of soft twist and low breaking strength. The battery fillers who plug such yarns are not accustomed to a yarn which can pull back at them almost on equal terms. Neither are they accustomed to winding the yarn around the thread holders in a counterclockwise direction.

One point to be prepared for is the trouble some of the fillers will have in breaking the filling tags off the end of the quills, and off the thread holder. Have some adhesive tape on hand and insist that the battery fillers use it to tape those spots on their fingers which first show signs of tenderness. This will cause a measure of awkwardness, but it will avoid blisters—an almost inevitable condition if not guarded against.

There is another point to be remembered in respect to the battery filler's job load. Once the job loads are reassigned to correct for the increased number of transfers, a real problem may arise in the inability of some of the fillers to keep the batteries from "rolling."

The average battery filler is strong enough for the increased yarn strength to pose no real problem to him or to her. But the situation is different, the yarn is different, and the techniques are different: in essence, for the battery filler who for the first time is plugging plied filling, the entire job is different. It will take a little time for him or her to become adjusted.

THE FIXERS also are in for a few changes in their working habits. To the experienced fixer the speed at which fur and/or bristles disappear will be old stuff. To the strictly "80 square" fixer it can be dismaying.

Shuttle eyes must be changed to accommodate the change in direction of package wind. This statement of course hinges on the usual practice of plants using standard twist in their singles yarn, and of using the reverse twist in the plied yarns. Usually a shuttle eye of reverse type is needed to obviate threading up difficulties. These eyes are usually referred to in the plant as "right hand" for standard twist, and "left hand" for the opposite.

If narrow fur strips are to be used in the shuttle, they must be installed in positions opposite those used for singles yarn. The object is to place the fur in a position that will permit the loops of filling as they are pulled from the quill to slide off and not into the fur. The strong filling will not necessarily break if this is not done, but the filling tension will be hard to keep constant.

Whatever sloughing material is used, and whatever the system used, enough of it must be installed, and installed properly, to accomplish its purpose.

Of recent years many plants have adopted the use of nylon loops in place of bristles or fur. Many such mills are happy with the results: you couldn't give the system to other plants operating on the same fabrics. To each his own. The same may be said for bristles and fur. Some mills use fur, some use bristles, some use both, and some use neither.

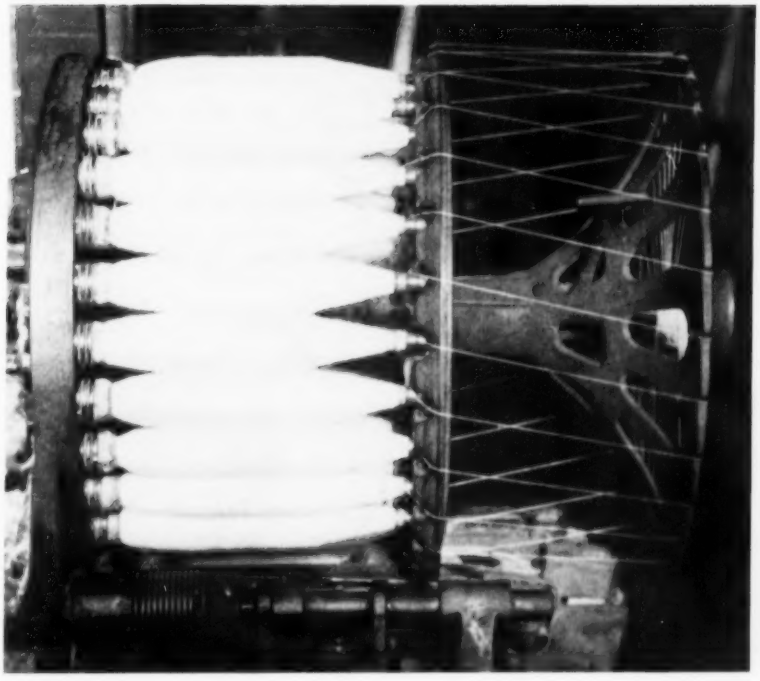
It is generally conceded among mill men that some system of anti-sloughing is needed, and some system is needed for helping the filling to thread the shuttle eye on the first pick after transfer. The systems used are almost as numerous as the weave rooms themselves, but the results obtained are remarkably uniform. Thus this article must deal in generalities if the author is to stay out of wholesale arguments.

Filling package density is no more important on plied yarns than it is on singles. One thing must be said in favor of the plys, however—it is not going to break as easily as does the singles, so wrap it as tight as you wish. Generally the tighter it is wrapped, the less it sloughs.

Then too there is the matter of filling transfers. The change from the coarser counts, up to 14s we'll say for the sake of argument, to a number such as 10s/3 or 10s/4 (even 20s/3) will multiply the number of filling transfers in a given time.

Incidentally this is one problem which keeps most of our medium, and all our heavy ducks consigned to the hand-change loom. The heavy fillings used (some of them will stop the shuttle flight rather than break when tangled) require so many transfers that on the average automatic loom supervision soon appears to be super-

Filling



vising filling transfers only.

There is a correlation between the supervision needed and the number of transfers a weave room experiences—if quality is to be guarded—and if there is one thing that will kill the spirit (and success) of a duck mill, it is some of the results of faulty transfers such as broken picks and jerked-in filling. These are to be expected roughly in proportion to the number of transfers needed to produce a given length of goods.

A loom could be built if the demand justified it—built with the 23-inch (or larger) shuttles so often seen in the medium duck mill—to transfer automatically. Until such a monster is in general use the present limitations on filling numbers will keep the heavy fabrics off the automatic looms. There are other factors involved, of course, such as take-up and let-off motions, and general loom strength.

With the increase in filling transfers comes the inevitable increase in parts wear. No longer will the loom transfer motion hold its settings indefinitely. Instead, everything about the motion will have to be reset or replaced at a pace undreamed of in the 80-square plant.

One of the first complaints the heavier filling will arouse is that of filling knife failure. Some plants replace the plastic plate in the filling knife assembly with special steel devices designed for heavy-duty use.

SHUTTLES take a terrific beating at best; and suddenly to step up the transfer pounding several times shortens shuttle life measurably. However, shuttle life does not necessarily decrease in ratio to the increase of transfers. But it will decrease.

Power should be kept at a minimum. The very weight of the heavier filling causes each coil to react differently from each coil of a lighter number. That portion of each coil which is in motion as the unwinding ceases (as the shuttle comes to rest in the box) must be brought to a halt with the least shock possible.

It seems to be the nature of the heavy stuff to tend to slough a bit more than does the lighter yarn; and nowhere is this tendency more evident than in the left hand box of the loom. The braking effect of the shuttle check, combined with the shattering blow the picker next gives it, is guaranteed to loosen anything not securely nailed down anyhow.

Consequently in this box the two forces just mentioned are tending to drive the quill right out of the package, and any coils of filling half-heartedly hanging on are bound to be dislocated. The action is not so severe in the right-hand box, even under the same conditions of loom picking.

When accelerated from this position, the filling supports itself, one coil on another, and in turn is supported by the taper and shoulder of the quill. From such conditions, proponents of the use of fur find grounds for a very convincing debate.

Cloth face will change. The heavy filling simply refuses to behave as did its lighter counterparts. Consequently it may be necessary to time the harness crossing a little earlier in order to trap the heavy picks before they start to wander.

Selvages will also look different. If there has been any tendency for cording or buttonholing, it probably now will appear in no uncertain form. These defects will appear greatest on the lighter warps on plain weaves. Usually a tape selvage or doubled selvage ends will correct a great measure of this trouble.

Sometimes the balance of the trouble will fade out by lowering the filling tension and keeping it as nearly uniform as possible. However, with the best of care, those conditions become a cross which the overseer must bear now and then.

Filling tension cannot be kept absolutely constant. As the package is exhausted, the distance between the filling and the shuttle eye increases, and with this increase comes a change in the behavior of the filling balloon. Usually this builds up to a maximum just prior to transfer.

Try to keep the bunch limited to

the yarn needed for three picks. And when building the bunch, build it as compact as is possible. A bunch allowed to cover ¾" of the quill barrel is just about as wide as a bunch should be.

If it grows beyond this length, it is likely to upset the beginning of the filling build by producing a taper that is too flat, and too flat tapers at this point on the quill lead to increased tension.

If the fabric is one similar to some of those used in the tufted carpet industry, which may be woven of plied filling and heavy singles warp yarns, the selvage problem may require a different approach. Some of these fabrics, even those of plied filling and warp yarns, must be so sleazy that they present a unique problem in selvage formation. Often these fabrics are so soft that the heavy filling eats the poor selvages.

Often the condition cannot be corrected by increasing the warp tension. To do so destroys the fabric width and sley. Add to these conditions the fact that some fabrics require plain selvages (no tapes, no doubled ends) and the problem gets complex.

A very common selvage draw for this condition is the old 1, 2, 3 standby. In this draw the outside warp end is drawn through a dent to itself in the reed. It is necessary to select the end so as to have it in the bottom shed as the shuttle leaves the box nearest it. This is done to utilize the greater tension of the bottom shed, for this end will bear the first shock as the filling begins to unwind. It may be necessary to cut out an end or two now and then in order to gain this condition. The next two ends are drawn through a common dent. The body of the warp is drawn in as usual. The 1, 2, 3 combination is an outgrowth of the practice of drawing-in so many duck styles three ends per dent.

Usually there is no restriction on the source of the outside end. If necessary, replace that outside end with a heavier one from an independent source such as a quill or a bobbin, or a twister spool. Mount a tension device on each side of the loom arch, and pull the end through this. The tension on these ends can then be controlled independently of the warp tension. The yarn need not be heavy enough to cause cording—just strong enough to fight back at the filling weight.

More firms using management consultants, AIM survey reveals

■ The "generalist," a man who is uncluttered by prejudices or hidebound by specialization, has helped run the business world's annual bill for management consultants to more than half a billion dollars a year, the American Institute of Management has found.

In a study called "What Management Consultant—And When," the management research organization disclosed that more and more management consultants are called in by top business management as "generalists" to advise at policy levels, rather than just provide the specialized services that companies cannot afford regularly on their staffs. It is the top men themselves who are often specialists today, having reached the "presidency by way of sales, production or finance to find themselves unsure in dealing with other fields in the company." AIM learned this from a study undertaken among many of the best managed companies in the country.

These companies disclosed that there were many times when even a well-managed business needed help from a management consultant. There are problems which simply haven't been licked, or non-recurring ones which do not justify using regular personnel to solve. Management sometimes needs information outside its range and experience, or is unfamiliar with new techniques that appear promising. Then there are problems which require impartiality or freedom from politics in a way unobtainable inside even well-run companies—for instance, a delicate situation may want merely outside confirmation of management's findings.

Since consultants vary all the way from the type who are as wary at soliciting clients as a physician, to some who go to any lengths to make a sale, AIM cited the Association of Consulting Management Engineers for promoting ethics and good business practices among its 41 member firms. There are other ethical, excellent firms which do not belong to this group, however, AIM said.

One of the major difficulties with employing a consultant arises over vagueness at the beginning, for both the company and consultant should know exactly what is expected of both before the project is started, AIM reported. Then a critical factor is to look hard at the qualifications of the men assigned by the consultant, especially if the problem is a broad policy one that has already baffled the upper ranks in the company needing a consultant. It is absolutely essential that the consultants who will actually be on the job (not the men who make the arrangements) have the qualifications both the company and consulting firm agree are necessary.

Reasons which some companies gave for not using a consultant:

1. Too expensive.
2. The company's activities are so specialized that no qualified consultants are available.
3. Would disclose confidential information.
4. Would disturb personnel.
5. Executives wouldn't accept recommendations.
6. Unsatisfactory previous experience.
7. Management should solve its own problems.

Staff report

Cotton Men Approve Synthetics Merger

American Cotton Manufacturers Institute convention report

MERGER with the National Federation of Textiles was approved by the membership of the American Cotton Manufacturers Institute, meeting in annual convention at Palm Beach, Fla., last month. The consolidation must still be approved by NFT's membership, but the final OK is expected to be only a formality, since mill executives who control 72 per cent of the looms represented by NFT are also members of ACMI.

Other highlights of the meeting included a review of the position and prospects of the American economy, by George B. Roberts, vice-president of the First National City Bank of New York, and C. Canby Balderston, vice-chairman of the board of governors of the Federal Reserve System; and a discussion of the Federal budget by Senator Lyndon B. Johnson of Texas.

ACMI's officers for 1957-58 are, l-r: L. G. Hardman, Jr., Harmony Grove Mills, Commerce, Ga., president; Halbert M. Jones, Waverly Mills, Inc., Laurinburg, N. C., first vice-president; and James A. Chapman, Inman Mills, Inman, S. C., second vice-president.

UNION of the ACMI, which is concerned primarily with cotton, and the NFT, which is concerned primarily with man-made fibers and silk, has been under discussion for some time. Active negotiations leading to the resolution approved by ACMI's membership were conducted during the last six months.

The terms of the merger proposal include creation of a "Man-Made and Silk Fibers Division" of ACMI, with the New York office to be manned by a merged staff.

The board of directors of ACMI is to be increased from 24 to 27 and the executive committee from 10 to 12 to insure adequate representation of the man-made fibers group, in addition to representation already held by heads of companies interested in both cotton and man-made fibers.

A new standing committee will also be formed, to deal with problems related directly to the man-made fiber segment of the industry.

ESTABLISHMENT of an economics research division within the ACMI was approved by the Institute's board of directors at a meeting held the day before the convention opened. The new division will embrace the present statistics reporting program on an expanded basis.

The aim of the economics research division is to encourage member companies to make greater use of economic data in planning future operations. It will be directed by an economics policy committee composed of top management personnel.

A LONG flat crest in the prolonged advance of the American economy was foreseen by George B. Roberts, vice-president of New York's First National City Bank in an address to the convention.

Three major areas of strength were cited: first, the record volume of spending at retail stores, and the fact that recent surveys have shown consumers to be mostly optimistic about the general outlook and their personal financial positions.

Second, government spending is also on the rise, not only in national defense and other Federal expenditures, but also in state and local expenditures for public works and other purposes.

Third, businessmen are planning to spend over $37 billion on new plant and equipment during 1957—an increase of six per cent over the record-breaking 1956 outlays.

AN ECONOMY which in most areas has shown a demand for materials and manpower resources greater than supply was pictured by Mr. Balderston in an address on capacity, consumption, and stability. The failure of the textile and food industries to fit into this picture was attributed to the fact that, as the incomes of more and more people rise above subsistence levels, consumer demands for luxury products—housing, autos, appliances, and the like—are

stimulated more than those for the necessities of life. Demands for the latter are not likely to grow much faster than population.

Noting that the combined output of cotton and synthetic fabrics has expanded somewhat over the postwar years, while number of man-hours worked in the industry has steadily declined, Mr. Balderston suggested that this points up a substantial increase in output per man-hour—perhaps as much as one-third since 1947. However, wages have increased at about the same rate as output per man-hour, while wholesale prices of textiles have declined.

These facts underline the high stake of textile manufacturers in Federal fiscal and monetary policies. Excessive demands pressing against capacity in other key industries have been reflected in general wage and price advances which adversely affect the textile industry. They have brought about the higher wages that textile mills must meet, and the higher costs of new machinery, repair parts, fuels, transportation, and other services.

The position of the textile industry is likely to be worsened by inflation, hence its vital stake in efforts to prevent an unrestrained boom. Moreover, the reaction that inevitably follows such a boom is at least as painful to textiles as to other industries.

OUTGOING president F. E. Grier in his address to the convention called for abandonment of methods and practices which may have been valid enough in the 'twenties and 'thirties, but which are not geared to present conditions.

" . . . manufacturing and merchandising policies ought to be based on the fact that potential overproduction is vanishing. There is no good reason why markets and profits should not reflect this better balance between the forces of supply and demand.

"My definite impression is that the pipelines between the grey mills and retail outlets are rapidly emptying. The short-range prospects for market improvement are favorable. For the longer outlook, there is also reason for optimism. The decline in productive capacity . . . has been a sound adjustment. Also, it is a favorable fact that population in the United States continues to grow very rapidly, as does consumer income," he said.

Discussing the need for market research, economic analysis, and statistical forecasting, Mr. Grier commented, "No longer can we afford to expand facilities faster than market conditions justify. The time is long gone when we dared just grind out goods, store them in warehouses and then, later on, do our market 'planning' on the basis of rumor, hunch, and financial pressures."

"The time is long gone when we dared just grind out goods, store them in warehouses and then, later on, do our market 'planning' on the basis of rumor, hunch, and financial pressures."

RESOLUTIONS approved by ACMI's membership at the final meeting on the Saturday morning of the convention included two presented by the Institute's Foreign Trade Committee, one expressing vigorous opposition to U. S. membership in the Organization for Trade Cooperation, and the other calling for legislation to tighten up and make the anti-dumping machinery effective for the protection of American industry.

The Tax Committee of ACMI presented a resolution pledging full cooperation with the U. S. Treasury Department in its forthcoming study of depreciation rates, to the end that all industry may obtain more equitable treatment. Joint effort with other interested groups to obtain acceptance of the "Current Value Depreciation" principle was also recommended.

The Tax Committee also proposed that ACMI go on record as favoring progressive reduction of the corporate income tax rate to a point where the combined rates do not exceed 35 per cent, and rapid reduction of individual rates so that the top bracket does not exceed 35 per cent.

The National Cotton Council presented a resolution for the approval of the membership, urging that the use of asphalt coated picksacks by cotton producers be completely stopped. The asphalt coated sacks represented 5 to 8 per cent of the total in 1956, compared to 45 to 50 per cent in 1955.

C. A. Cannon of Cannon Mills Co. presented a proposal that the ACMI go on record as expressing its appreciation and approval of a resolution adopted by the National Cotton Council at its annual meeting this year. The Council's resolution called for its officials to seek the full cooperation of the USDA in undertaking an immediate, exhaustive, and continuing investigation of the spinning quality of American upland cotton, with particular reference to current growing, harvesting, ginning, and bale handling procedures.

Basil D. Browder of Dan River Mills submitted a resolution calling for the U. S. government to withdraw its participation, financially and otherwise, from the International Labor Organization, since it " . . . is dominated in large measure by a Socialistic Government-Labor coalition which is using the organization as a promotion agency for socialistic philosophies of government . . . with the acknowledged help of Communist representatives . . ."

A second resolution presented by Mr. Browder proposed that the ACMI heartily endorse the action of the 17 states which now have "Right-to-Work" laws, and pledge its support to organizations in other states now attempting to get such legislation enacted.

A third resolution called for strengthening of laws prohibiting secondary boycotts.

Pinpoint departmental costs

Here's the simple but efficient system used by one worsted mill manager

by Watson J. Wood
Manager
Knitters, Ltd.
Lindsay, Ont.

Exclusive

EFFICIENCY and labor cost statements need not be difficult or elaborate. They must be clear, concise, and true records. They must give at a glance all pertinent facts, show past departmental costs as well as present costs and have columns for production up to date, total wages paid, and net costs.

All mills cannot adopt the same method, but the principles remain the same.

Production records have to be kept. Some managements prefer the weighing method; others insist that automatic counters are time and labor savers. No matter what methods are used, they leave something to be desired; yet by allowing 5% plus or minus margin they should give good results.

In efficiency and cost statements we must also take into account the waste factor. Here again methods differ for individual plants, so no hard and fast rule can be laid down. We find that where a waste control study has been made and a percentage allowance arrived at for the different counts, qualities, etc., a weekly collection and departmental weighing proves adequate.

We also find that independent employees, i.e., collectors and weighers, make for smooth, efficient methods. Although I have seen perhaps dozens of waste control systems, I still prefer that the weighing be done by one person and records kept by run numbers or lots.

The fact remains however; that when we add anything to a system or take something away, efficiency is immediately affected. Therefore no one man is able to dictate policy in such a matter. Team work is the first requisite. Neither I nor any person, without making a study of an individual mill, can lay down exact methods for finding and keeping records of departmental production, efficiency, and costs. All that one can do in a paper of this kind is to keep to broad general principles.

OUR PRODUCTION is checked for each machine; waste for each operator, which is marked on the production sheet provided. This of course shows the operator's name, job, quality, counts, turns per inch, and such pertinent facts necessary for assessing values and efficiencies. These are sent at the end of each working week to our production and efficiency clerk.

In this office all the necessary

Fig. 1. Weekly production chart for worsted roving. Twist constants, 125/80 and 180/93; draft constant, 238; spindle speed, 2400 rpm; 100% production constant, 2190; average worsted count, 4.46.

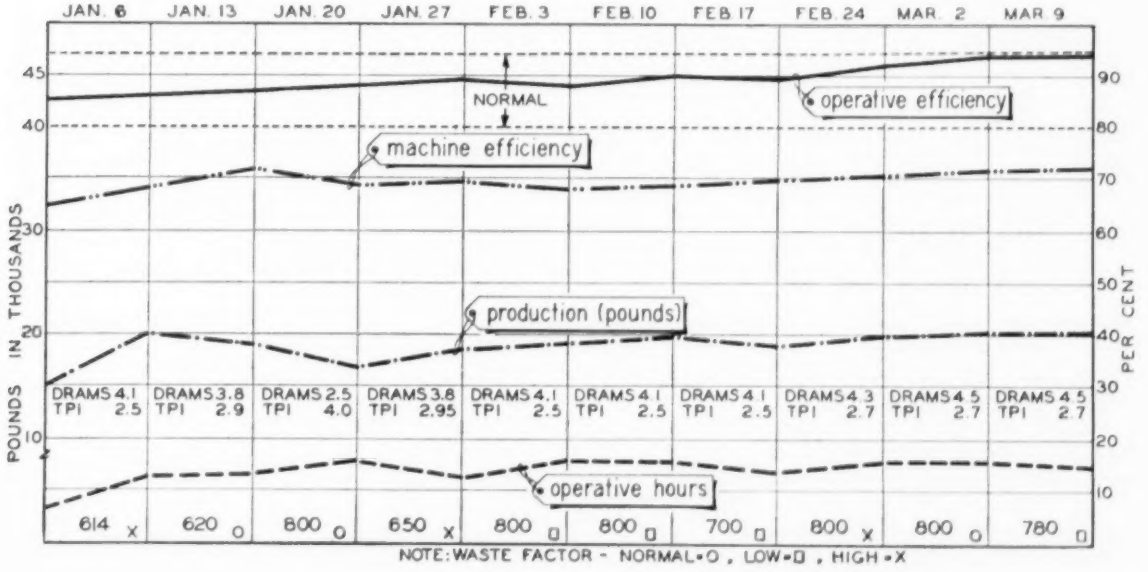


Fig. 2
Data for 64s Super Noble Combed Top

Commercial length (L)	6"
Practical average (PA)	4½"
Coefficient of regularity (CR)	37½%
Coefficient of bulk (CB)	63.7%
Expected yarn regularity (RL)	74%
Top regularity square (TS)	4.2%
Sliver average variation (SV)	12%
Sliver maximum variation (SM)	12.0%

Notes:

L represents the nominal, commercial, or standard fiber length.

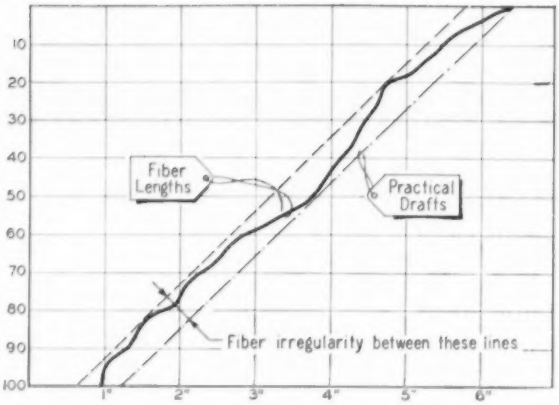
PA is the average of fiber lengths in the top at the 50% and 10% levels.

CR is calculated at the 70% and 10% levels.

CB is calculated at the 50% and 10% levels.

RL: There are 32 fibers per cross section in a 40s yarn where the fiber fineness is 1300s worsted count; therefore the yarn regularity constant (152) divided by the number of fibers per cross section gives 26% irregularity, or 74% regularity.

Manufacturing data: load, 1000 spindles; breakage factor, 12% per hour; spindle speed, 7000 rpm; supply package, 3 lb 12 oz; tpi, 18; production constant, 1900 for 100 spindles at 100%.



Additional data for this fiber diagram of 64s Super Noble Combed Top are given in the column at the left.

working tools have been provided: machine constants, speeds, production constants, loads, etc. To show our findings here, we use charts; see Fig. 1. The advantage of these charts will readily be seen.

In our own office you will see these charts hanging on the wall ready at a second's notice to give us past and present productions and efficiencies.

We make these charts on good graph paper big enough to last one year. They are divided into 52 parts; each represents one week. It will be noticed that all the necessary data are recorded. Different colored pencils are used for showing the weight produced, man hours required, efficiency per cent by machine, and efficiency per unit (i.e., work hours).

There are of course two efficiencies—machine efficiency and operative efficiency. Our planning office also works with quality charts (Fig. 2). The chart shown here is a spinning chart for our 64s Noble combed top. We believe that it is self explanatory. The method and constants are our own. This chart, for example, is a master for our 64s super quality. We establish masters like this for each top quality.

New lots are checked with the master chart. It only takes a few minutes to make a simplified chart of a new lot, which is done on transparent paper. The new one is then placed over our master; any deviation from standard or an improved top can easily be seen.

True, master charts take time to make, but taking everything into consideration, all the information contained therein is actually necessary for efficiency, and very little more than is done routinely in most mills. In addition, these are

Fig. 3. Efficiency and labor cost statement is prepared weekly from the production and efficiency charts (Fig. 1).

LABOR COST STATEMENT, WEEK ENDING

Oct. 5

	Pounds	Wages	Cost Per Lb.	To Date Pounds	To Date Wages	To Date Cost Per Lb.
1. BLENDING	25,000	1,000.00	.04	100,000	320,000	.032
2. CARDING						
3. COMBING						
4. INDIRECT						
AVERAGE						
5. DRAWING						
6. ROVING						
7. INDIRECT						
AVERAGE						
8. SPINNING						
9. DOFFING & PEGGING						
10. INDIRECT						
AVERAGE						
11. WINDING						
12. TWISTING						
13. REELING						
14. SKEIN WINDING						
AVERAGE						
15. DYEING DIRECT						
16. DYEING INDIRECT						
17. SHIPPING & RECEIVING						
18. MAINTENANCE						
19. BOILER & WATCHMEN						
20. OFFICE						
WEEKLY WAGES TOTAL		$		WAGES TO DATE	$	

DRAWING	SPINNING	TWISTING	WINDING
Average Roving	Average Counts 1/36	Average Counts 14's	Average Counts 1/33's
Cost per Count	Cost per Count	Cost per Count	Cost per Count

Average Spinning Count to date 1/28's Convension Cost to date _____ per lb. yarn

Total Average Cost per Count to date _____ Conversion Cost to date _____ dyed

Convension Cost Dyed this week _____

permanent records, and may be kept together with all simplified charts in very little space.

Once correct loads, speed, rest periods, and fatigue allowances have been found it becomes a simple matter to rate workers as producers and establish percentage efficiencies.

The charts also show another factor; for example, should efficiency go above or fall below the lines drawn as normal then something is wrong—turns, speed, load, etc. Should this happen, we all go into a huddle to find where the fault lies.

We even take the operative into consideration and consult with her. After all, top management and foremen do not have all the brains. It is amazing sometimes how an operator will come up with the answer. At any rate, the operator is made to realize that she belongs as one of us to the family. Man is a sociable animal and likes to belong to things worthwhile.

Labor cost statements are easily prepared from the information now on hand. All that is required are the production and efficiency charts and the payroll. We give each department a number (see Fig. 3 for example).

With this method it is an easy matter to check:

1. Where we came from.

2. The position at the present time.

3. Where costs are headed.

"How we organized for action against accidents"

by W. F. Garth
Plant Manager
Pacolet Mfg. Co. Mill 6
Gainesville, Ga.
Extract*

■ Following is the procedure which we used to organize for action against accidents and a brief description of the program which we have for maintaining a safe plant in which to work:

Step 1. Forcefully demonstrate management's interest in the safety program to local supervision and employees. This may be accomplished in many ways. In our particular case we wrote letters to all supervisors stating our intent to run a safe plant. Interest in safety is also demonstrated by word of mouth constantly through all levels of our operation.

It is also necessary to demonstrate by personal attendance at meetings, both of employee groups and of supervisory groups, that the entire top management team is highly interested in safety.

Another item of management interest is the prompt disposition of recommendations presented by safety committees. A full explanation is sent back to members when their recommendation can not be followed. The explanation had better be sound if it is to be effective. As all of you know, it is not possible to carry out all recommendations immediately, and channels must be set up to be sure that communication is clear and reasonable explaining why action has been delayed somewhat.

Step 2. Appoint one person responsible for all safety activities in the plant. This person, of course, must be qualified to handle these safety activities and to give to these activities effective attention. He or she must be able to do the following:

1. Establish monthly meetings of supervisors with a planned program to present, including accident data, accident review, reporting of department inspections, and the reading of written minutes.

2. The establishment of definite procedures for investigation of all accidents requiring medical attention—originating on the shift on which it happened — routed through the overseer or department head back to his attention. After an accident is reviewed and commented upon and fully discussed, it is then filed in the employee's permanent record.

3. Definite written inspection reports must be established. These reports are to be made in each department before each monthly meeting. The inspection reports are reviewed by the overseer or department head before they are brought up in open discussion, and hazards are corrected by the department head through shop orders. Certain major items that require management approval are taken up by the department head with his immediate supervisors.

4. An adequate medical control program to insure proper treatment and proper medical records must be established.

In our particular case we work closely with our company nurse to see that she keeps control of all of these medical records.

Step 3. The plant management should in some detail explain to all of the supervisors in the plant just exactly what is expected of them in seeing that an active safety program is maintained. We expect all of our supervisors to be personally interested in safety and we constantly urge them to talk safety every day with each man that can possibly be contacted. We expect all of the supervisors to take an active part in:

1. Safety committee work, both in the supervisors' meetings and in the department committee work.

2. Investigating and correcting improper procedures.

3. Inspection of departments.

4. The establishment of safe operating procedures.

5. In giving short talks and demonstrations to new employees.

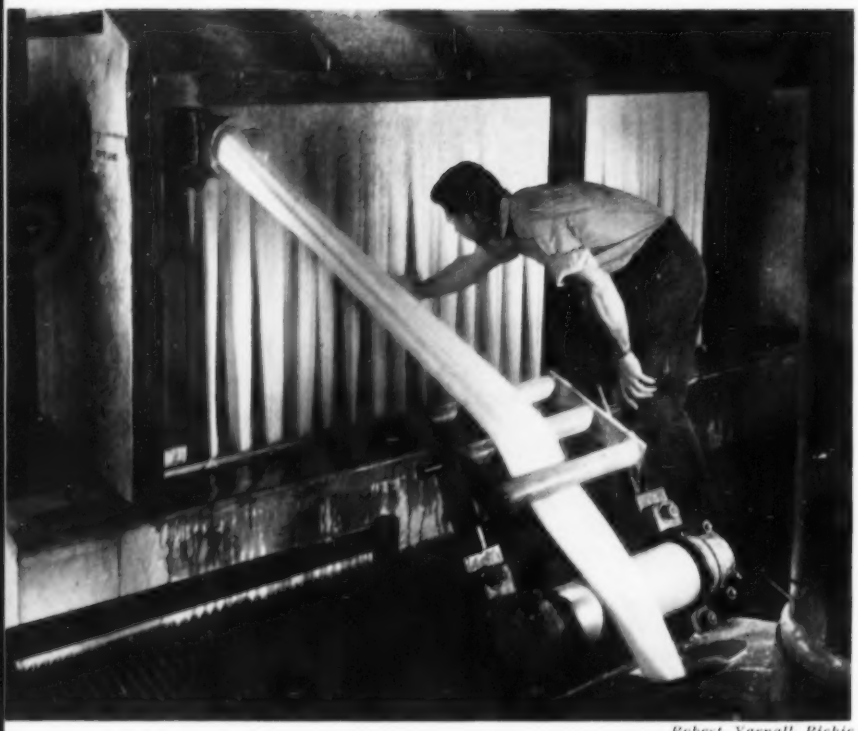
6. The distribution of appropriate literature.

7. The showing of certain safety films.

8. Presentation of individual awards for safe work.

Step 4. Of high importance is continual education. As has been explained in part, this education may be handled not only by word of mouth but by the regular posting of attractive and effective posters, by film presentation and demonstrations, and by bringing in good outside speakers to safety meetings.

*From paper presented to the National Safety Council's Textile Section during the 1956 National Safety Congress and Exposition.



Robert Yarnall Richie

You can

How to reduce chemical costs in continuous peroxide bleaching

by H. G. Smolens*
Pennsylvania Salt Manufacturing Co.
Exclusive

DURING the past fifteen years there has been a tremendous increase in the use of hydrogen peroxide in finishing plants, principally in the continuous bleaching of cotton piece goods. Most of the technical work performed in this period has been directed to the turning out of well bleached goods suitable for whites or for dyeing.

Many troublesome problems had to be solved, some of them chemical, some of them mechanical. Now, when most if not all of the bleaching ranges are doing pretty well from the standpoint of quality and production, the question of cost reduction can be brought up.

The ideal continuous bleaching range under our present systems of operation would be one in which the cloth is desized, washed completely free of desizing residues, soured to inhibit iron or other mineral impurities in the cloth, washed completely free of acid, saturated with reasonably pure clean caustic, steam heated for the necessary time, washed completely free of residual and waste alkali, saturated with a clean alkaline peroxide solution, steam heated for the necessary time, washed completely free of residual chemicals, and dried. For colored yarn goods, a preliminary peroxide stage would replace the caustic stage.

In this ideal range we would use deionized water, hot or cold as required, and would have no equipment that could contaminate the cloth with metallic or other impurities.

In such an ideal range, the chemical cost of the bleaching would be at a minimum. The difference between this minimum and the existing cost is the challenging factor that is here under consideration.

It is doubtful that even one continuous range can be found in operation that approaches this ideal system. However, without much equipment change, without interruption to production, and without much technical hocus pocus, it is possible to reduce costs. This possibility is the result of some newly developed techniques and the use of chemicals formerly unknown in textile bleaching.

THE HIGHEST COST station in the continuous bleaching operation is the peroxide saturator. Here the pretreated cloth is wet out with an alkaline peroxide solution that will bleach the cloth to the desired whiteness during the following steam heating period. This alkaline peroxide solution, consisting of silicate of soda, usually some caustic soda, and hydrogen peroxide, is fed to the saturator either by individual proportioning pumps or from a charge tank.

The percentage of each chemical per pound of cotton varies considerably from plant to plant, even when the same type of goods is being bleached. There are many causes for this variation, some of which can be corrected, others not, due to local conditions.

One major cause is the inefficient washing of the cloth between the caustic steamer and the peroxide saturator. This may be due to the poor washing quality of the water, to insufficient supply of water, to lack of hot wash water, or to obsolete washing equipment. The net result is that the washed cloth carries not only alkali but also soil into the peroxide saturator.

*Technical Services Department.

cut peroxide bleaching costs

Each continuous bleaching range has an optimum alkalinity for the most efficient operation of the peroxide saturator. This optimum alkalinity may be produced by either silicate alone or silicate and caustic, and is checked periodically by titration. The alkali feed to the peroxide saturator is varied in an effort to maintain this optimum alkalinity. If the cloth carries alkali into the saturator solution, the alkalinity will start to build up, unless the feed is reduced. This produces a dilemma.

If the alkalinity is allowed to build up, the formulation in the saturator solution gets out of balance and the bleaching quality and efficiency suffer. If the alkalinity is maintained by reducing the feed rate, several things can happen, all of which are undesirable.

If the alkalinity, fed by pumps, is reduced, the stabilizing value of the silicate is reduced and this can reach a point of complete instability, with resulting poor bleaching and higher cost. If the alkalinity, fed from a peroxide mix charge tank, is reduced, the peroxide quantity is also reduced, with resulting poor bleaching. Usually a compromise based on experience is used, but there is always the chance of trouble.

THE CORRECT SOLUTION to this problem is the chemical reduction of alkalinity during the washing of the cloth after it leaves the caustic steamer. This has to be done without harm to the cloth or the equipment and without causing the carryover of anything that will affect either the bleachability of the cloth or the efficiency of the peroxide saturation. In almost all cases a chemical reduction of cloth alkalinity also results in a very large reduction in soil carryover, with its resulting benefit in lower costs and better whites.

Even with chemically neutral and soil-free cloth coming into the peroxide saturator, there is another opportunity for cost reduction. This is in the reduction of or complete removal of silicate from the bleaching solution.

Silicate of soda has been used in the peroxide bleaching of cottons probably since the introduction of peroxide to cotton bleaching. Its original purpose was to provide alkalinity and stability. Later its purpose was to provide stability alone, since a caustic or soda ash alkalinity was found more advantageous.

However, silicate is not only an excellent stabilizer for peroxide bleaching solutions, but also is actually a bleaching retarder—that is, it slows down or checks peroxide bleaching. This means that a higher concentration of peroxide than necessary is required to produce a given result. Due to this retarding action of the silicate, much of the peroxide is unused and is subsequently washed away.

FOR MANY YEARS attempts have been made to peroxide-bleach cottons without any silicate at all. There are many reasons for these attempts. First of all, silicate is difficult to wash out of bleached cotton. If not altogether removed before drying, the cottons are harsh and less desirable than they should be. If short cuts in the washing are tried, such as souring, trouble can be looked for in dyeing and finishing.

Secondly, silicate causes crusting of equipment, especially stainless steel equipment, resulting in scale, rub marks, etc., which not only interfere with good operation but also can damage fabrics. Thirdly, silicate of soda is not too compatible with even moderately hard water and there are very few bleacheries that can afford soft water for all operations.

It is worth noting here that silicate is blamed for many faults in bleaching when there is no actual proof of its responsibility. Badly designed or poorly built equipment and careless or inefficient operation have been overlooked by blaming unsatisfactory bleaching on silicate.

However, to this day, except under some very unusual local conditions, a complete removal of silicate of soda from a peroxide bleaching solution that has to produce full whites, requires a proportionally larger amount of peroxide. This may be justifiable in some extreme cases, but in general, does not look like the right way to handle the silicate problem.

There are available several new chemicals* that can, if properly used, allow a fairly large reduction in the present silicate content of a formula, without any increase in the peroxide requirement. Even though these may not completely eliminate the silicate, they will eliminate enough to stop the troubles that have always been blamed on the use of silicate.

Furthermore, a substantial reduction in silicate content will enhance the bleaching value of a peroxide solution and in many cases actually allow a substantial reduction in peroxide requirement. At the same time an improved product from the standpoints of whiteness, cleanness and softness, is obtained.

Thus, a positive reduction in the caustic content of caustic-steamed goods, plus a substantial reduction in the silicate content of the peroxide bleaching formula, will not only reduce the chemical cost per pound but probably produce a superior result.

*E.g., "Sunolox," a complex polyphosphate for use in alkaline peroxide bleaching solutions.

To members of the "Avondale family"

A job is a partnership

Staff prepared Exclusive

THE FOLLOWING is an excerpt from a booklet, "An Introduction to Avondale," given to all new Avondale employees:

". . . Avondale's conception of the human side of industry is progressive, dynamic,—never static. It began when this business began, and has developed through the years, always endeavoring to keep pace with the nation's steadily advancing standard of living. This has found expression in a constantly broader appreciation of recreational, social, health, cultural and security programs, all of which have been developed in cooperation with employee groups.

". . . Avondale considers the relationship with its employees to be a partnership in which benefits and adversities are shared as all strive together to make the organization a better and more successful one. As is true in all partnerships, each individual should make his maximum contribution to the program."

The message is signed by J. Craig Smith, president and treasurer of Avondale.

The story does not end with that company's establishing a pleasant place to work, paying good wages, etc. Efforts are made to provide security to the families of the employees—in part, security in the form of wholesome surroundings, health, and finance.

The first credit union established at Avondale was at the Birmingham plant in 1937. Now there are seven such credit unions owned and operated wholly by the employees. How well the employees have succeeded is illustrated by the accompanying financial report recently compiled.

Retirement Trust and Vacations With Pay. The Retirement Trust was set up by the company as a means of sharing the profits of the firm. Sharing begins after the reserve for the stockholders has been met, and involves two plans—the retirement fund and the bonus plan. Profits are divided equally between the two.

The spirit behind the plan is illustrated in the words of President Smith: ". . . Any new employees who come to work . . . will be told that they will not participate in any profit-sharing plan until they have become members of our Retirement Trust. This means that they must work with the company at least a year before they participate in any profit-sharing.

"If the company does have any profits to share, any profits which would have been shared with these new employees will be shared with the employees now with the company and to that extent increase the participation of those now with the company.

"We think it is entirely fair and reasonable to ask a new employee to wait until he or she has become a member of the Retirement Trust before any profits are divided with him. We feel that a job with Avondale Mills is more than a job.

"We feel that a person who has worked a trial period with this company is actually a partner in the business and that the employment of such a person will not be terminated without justifiable cause. . . . Before entering into such a lifelong relationship, it seems reasonable that we have a trust year to get to know each other and to decide whether such a relationship is desirable for all concerned."

Vacations with pay are provided through the firm's policy of granting such to members of the Retirement Trust. The vacation pay schedule is reproduced below:

Years of Continuous Service with the Company	Percentage of Earnings During Vacation Year to be Paid as Vacation Pay
One but fewer than five	2
Five but fewer than twenty	4
Twenty or more	6

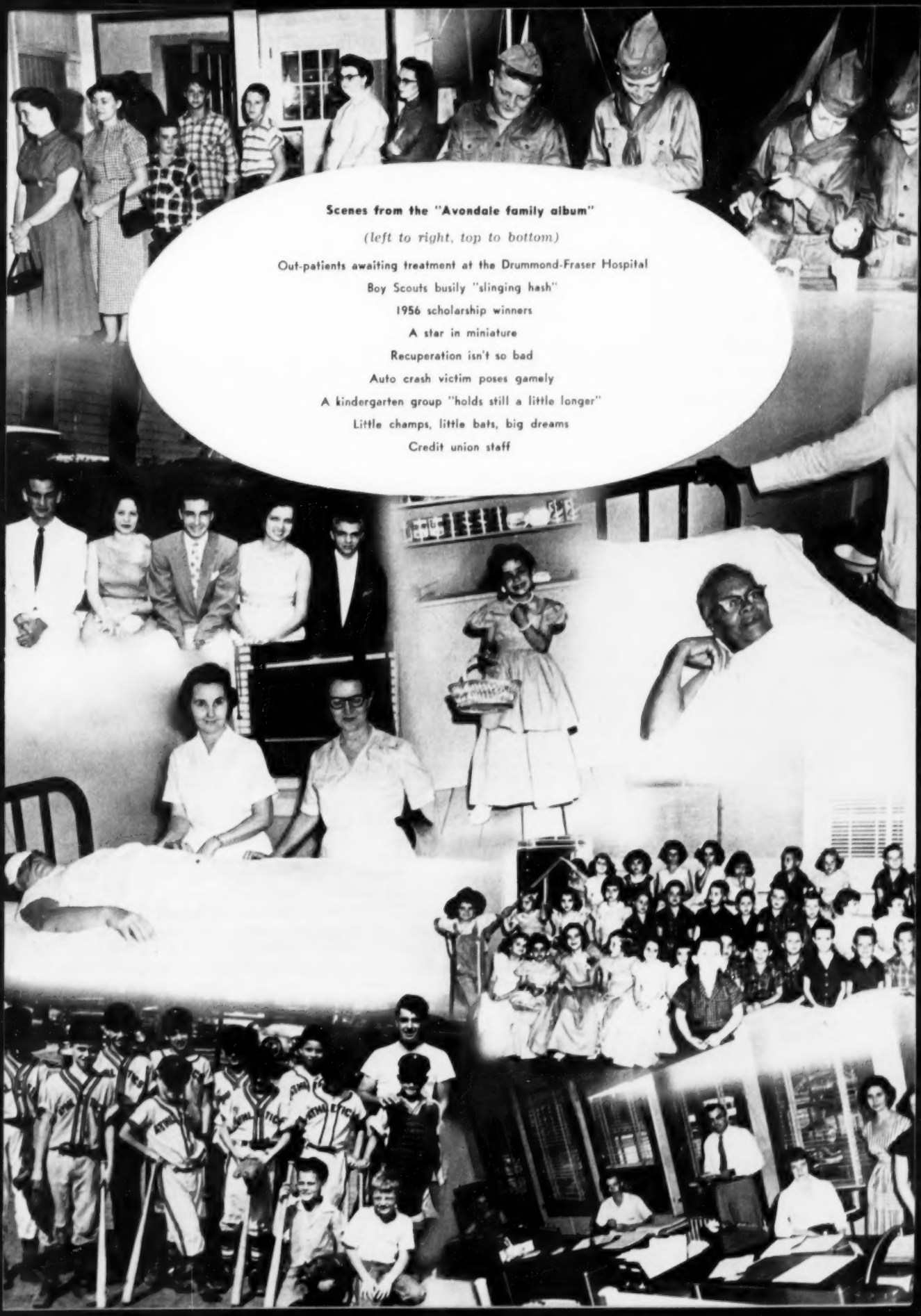
Scholarships. Five scholarships are awarded annually to graduates of Avondale Mills' community schools — Stevenson, Pell City, Birmingham (Woodlawn High), Sycamore, Alexander City, and LaFayette. Scholarships are based on scholastic record, character, qualities of leadership, natural qualifications, participation in community activities, and special consideration to the financial needs of the applicant.

Selections are made from the applications submitted. No strings are attached, although Avondale naturally hopes that the graduates will return to Avondale. Summer work is not guaranteed to the selected students, but every effort is made to secure it. All scholarships are $750.00 per year to Alabama Polytechnic Institute at Auburn, Ala.

The scholarship winners for

AVONDALE MILLS FEDERAL CREDIT UNION
Financial and Statistical Reports

Plant	Assets	Liabilities	Income	Expenses	Profit
LaFayette	71,860.80	71,860.80	4,524.54	1,452.47	3,072.07
Sylacauga	531,441.80	531,441.80	46,123.65	19,857.03	26,266.62
Bevelle	473,518.13	473,518.13	36,809.35	12,120.86	24,688.49
Sycamore	98,894.16	98,894.16	9,682.55	4,371.39	5,311.16
Birmingham	163,054.79	163,054.79	11,952.34	3,784.42	8,167.92
Pell City	243,881.10	243,881.10	18,502.65	7,732.31	10,770.34
Stevenson	7,825.93	7,825.93	642.73	381.22	261.51



Scenes from the "Avondale family album"

(left to right, top to bottom)

Out-patients awaiting treatment at the Drummond-Fraser Hospital

Boy Scouts busily "slinging hash"

1956 scholarship winners

A star in miniature

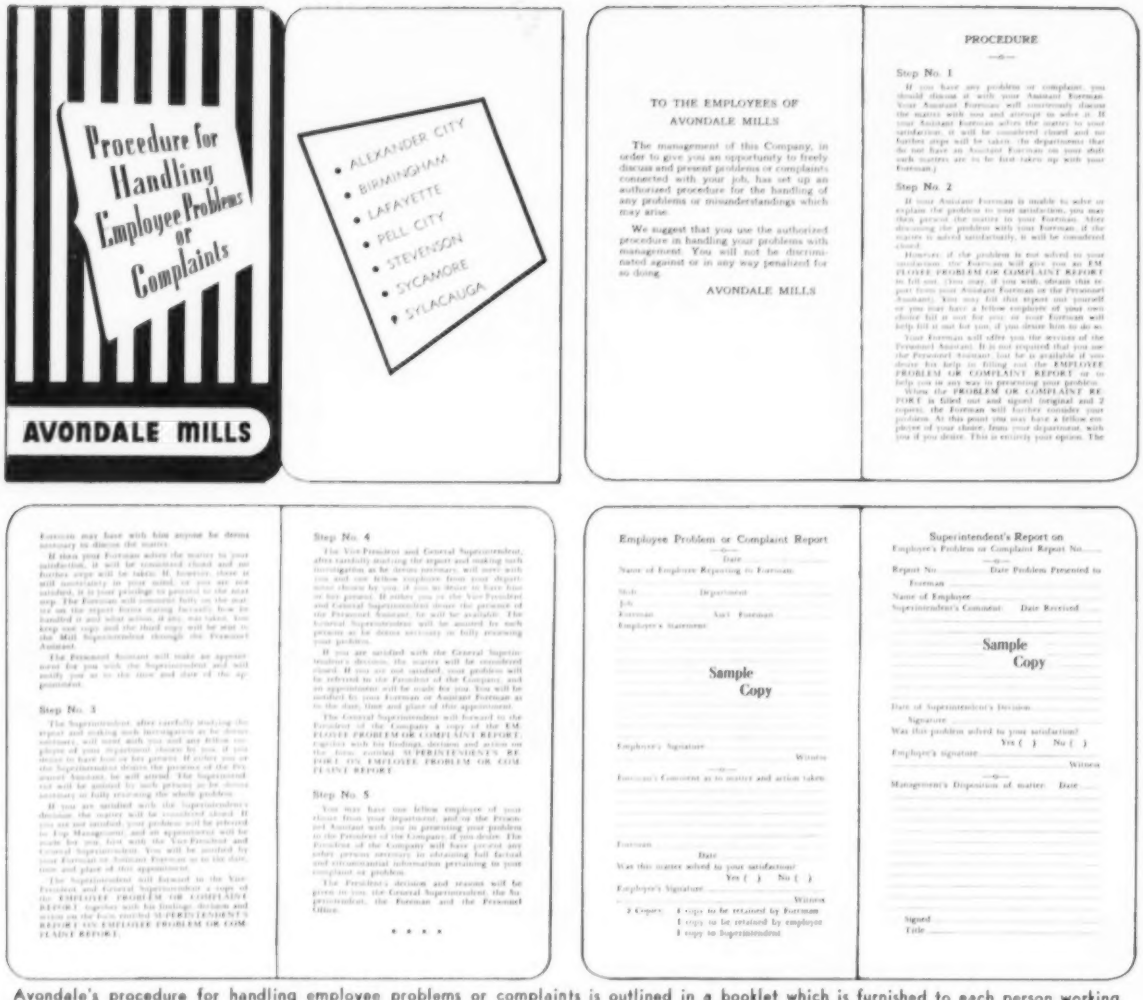
Recuperation isn't so bad

Auto crash victim poses gamely

A kindergarten group "holds still a little longer"

Little champs, little bats, big dreams

Credit union staff



Avondale's procedure for handling employee problems or complaints is outlined in a booklet which is furnished to each person working for the company. All pages of this carefully prepared industrial relations tool are reproduced above in a size which is readable. Note particularly the two forms at the lower right.

1956 are: Thomas David Bivin, Jr., B. B. Comer Memorial School; Glenda Ree Bolton, Sylacauga High; Raymond Cantrell Styres, Winterboro; Lynda Stewart, LaFayette; and Joe Edward Voss, Pell City.

The Drummond-Fraser Hospital at Sylacauga is owned and operated by Avondale Mills for the exclusive use of Avondale employees and their families. Exceptions are made only in the event of emergencies which overtax the other hospitals in Sylacauga.

To ease the financial burden incidental to illness, and at the same time to provide equal and adequate medical care for all employees, the hospital rates are scaled to remain within the schedule of benefits contained in the hospitalization insurance available to all employees.

Actually, the company draws that line overwhelmingly in favor of the employees; each year there is a hospital deficit which Avondale meets without question.

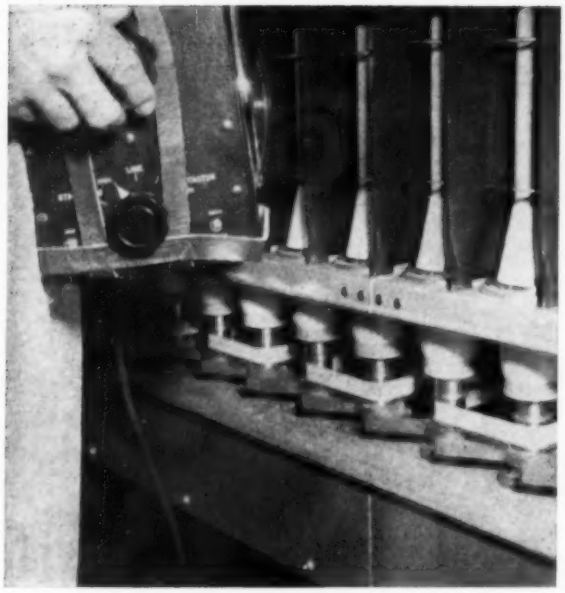
Since there are some 6,000 employees plus their dependents eligible for hospitalization and other medical care, the hospital is quite large—36 beds—and well-equipped.

Dr. Craddock

Mrs. McNeil

Headed by French H. Craddock, Sr., M.D., the staff consists of (either on call, on schedule, or both), a surgeon, a diagnostician, and obstetrician, and a chiropodist whose services are financed wholly by the company. Twenty full-time nurses are employed under the direction of Hospital Superintendent Mrs. Scott McNeil.

Dr. Craddock has been associated with the hospital since 1914, and enjoys the rare distinction of being one of the few, if not the only, doctors who are also vice-presidents of a textile firm. He recently was elected to that office in the Avondale group.



Nylon tapes boost spinning production

A. M. Smyre Manufacturing Co. increased SG-1 spindle speeds 3.7%

Staff prepared Exclusive

BONDED nylon spinning tapes have been in use at A. M. Smyre Manufacturing Co., Ranlo, N. C., for several years. Using the nylon spinning tapes on SG-1 spinning, the mill has secured an increase in spindle speed of about 3.7%. The life of spinning tape has also been extended, since to date the tapes have not broken or worn out.

There is now considerably less variation in speed from spindle to spindle than formerly existed, and the twist in the yarn is more even.

The life of conventional-type tapes on cotton spinning averaged about four months in this mill. The new tape has run for three years and shows no sign of wear.

The increase in speed amounted to 300 rpm average on 5/8" tape. The speed variation from spindle to spindle on SG-1 spinning is now about 100 rpm on 5/8" nylon tapes. While using 5/8" conventional tapes the variation was 200 rpm; therefore, the improvement amounted to a 50% reduction in spindle-to-spindle speed variation.

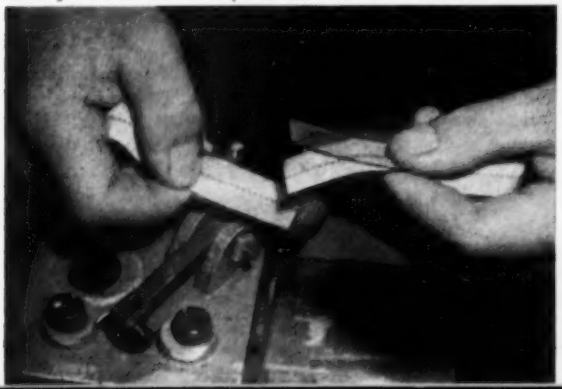
After an entire year of operation, another test was conducted, using a Strobotac to determine spindle speeds. The results of the second test provided additional verification of the results of the first test. The tests were run on eight frames with a total of 1920 spindles.

OLD-TYPE tapes on small package conventional frames varied as much as 500 rpm from spindle to spindle, at a supposed speed of 8950 rpm. With the change to bonded nylon tapes, this figure jumped to 9150 rpm on 30s yarn. Yarns spun on frames tested in this mill were soft-twist knitting counts.

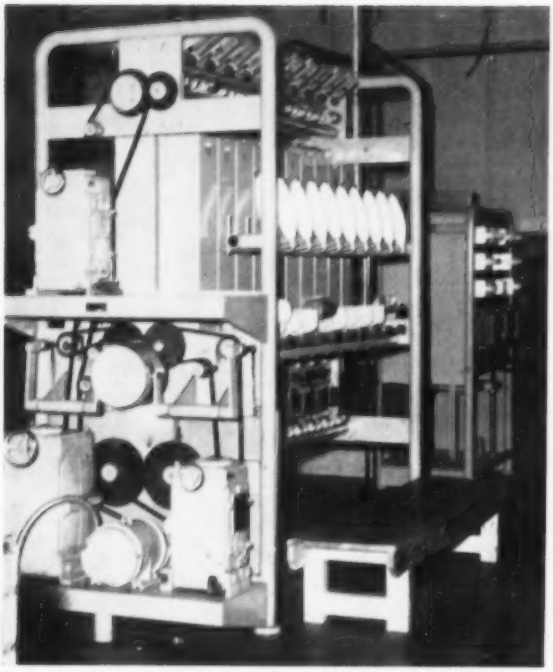
On SG-1 frames running conventional tapes, the spindle speed averaged 7850 rpm. Upon changing to bonded nylon tapes, the speed jumped to 8150 rpm on 20s knitting yarn, and a reduction in speed variation from spindle to spindle of 50% was effected simultaneously.

Twist gears had to be changed to decrease the amount of twist inserted to compensate for the increase in spindle speed. The maximum spindle-to-spindle speed variation on conventional spinning was reduced by about 80%. The tapes used at this mill were supplied by Oliver D. Landis, Inc.

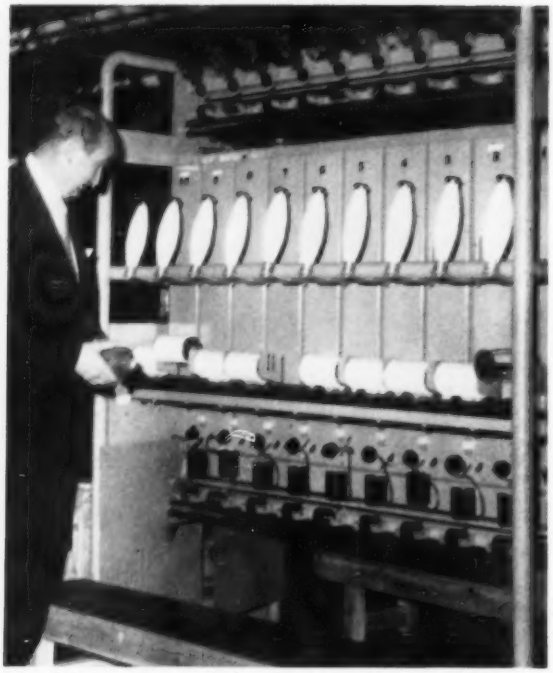
First step in bonding nylon tape in the mill is to place sheet of bonding material on the tape as shown in the illustration below.



The lip of the electrically operated bonding machine is used to tack ends of the tape together before final fusing of the splice.



The vertical high-speed Helanca machine installed at Heathcoat's Carn Brea, England, plant. Note P.I.V. variable speed drive at end of frame, for control of input and output speeds. Electronic control panel is in the background.



John Paling, manager of the Carn Brea plant, beside the new vertical machine for making Helanca high-test nylon stretch yarn. The supply packages are mounted above the collecting cheeses, one of which is in Mr. Paling's hand.

High production stretch yarn

English mill uses a 90,000-rpm false twist spindle

by P. Abbenheim
Exclusive

LAST MAY it was announced that the Heberlein Patent Corp. had introduced a testing program for applying definite quality standards to the production of Helanca yarns.

A system of eight tests was devised to insure that the yarn would be of consistent quality, and a testing station was opened at High Point, N. C., to undertake the necessary checking. The yarn was christened "Helanca Hi-Test."

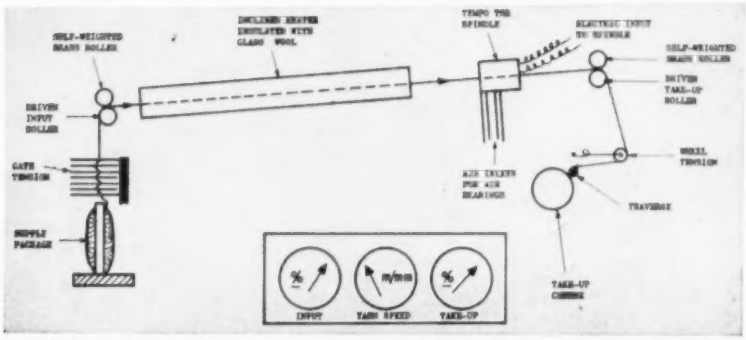
In Britain there is only one firm making Helanca nylon: John Heathcoat and Co., Ltd. Their mills are situated in the western tip of the South of England in Devon and Cornwall. Situated in some of the most beautiful countryside in England is the new plant at Carn Brea, Cornwall, where Helanca is now being produced.

The high-test program, as it has been introduced in Britain, is intended to serve a double purpose. It is, first and foremost, intended to insure a fixed standard for Heathcoat's nylon yarns of this type, while it is also meant to set the pace for other makers of stretch yarn, not branded as Helanca. One difficulty, however, is the fact that recently stretch yarns have been substantially reduced in price in Britain and, as a result, margins have been cut to the point where they do not permit the very highest quality standards.

Helanca Hi-Test as made by Heathcoats is, however, undoubtedly one of the finest crimp yarns being made from nylon in Britain today. It is also possible that in the near future we shall see the introduction of a Helanca Hi-Test Terylene (Dacron) yarn. Development in this direction at Carn Brea is well advanced.

Two methods and three types of machines are used at the Carn Brea plant to make Helanca Hi-Test nylon. The first type is for making "conventional" yarn. In this the usual throwing equipment is used. First the yarn is thrown with high twist in one direction, Z or S, after which it is set so that the twist is removed. It is then counter-twisted to give it the crimp and stretch associated with this type of yarn. Plying and cone winding conclude the process. It is, of course, expensive and tedious.

In an effort to speed the process



Plan of the horizontal high-speed Helanca machine. The yarn passes from the supply package on the left, through a gate tension, over the brass roller (input) held by the top self-weighted roller, through the heating zone and into the Tempo TSR spindle running at 90,000 rpm, and then over the final brass roller which controls the amount of stretch imparted to the yarn and which feeds it to the take-up cheese. Plying follows at a later stage.

a special machine has been developed by Heberlein, and Heathcoats have both horizontal and vertical models of this. In both instances the working principle is the same.

In the accompanying sketch is shown a general plan of the horizontal machine. It is self-explanatory, showing the path of the yarn from the primary package on the left as it passes through the frame to the collection cheese at the right of the machine. The three dials are coupled respectively, we presume, to the first set of self-weighted brass rollers which govern input; to the center dial is coupled the take-up drive; and on the right-hand dial is given the speed of the right-hand set of self-weighted brass rollers.

By taking the correlation between the two brass rollers it is possible to adjust the amount of stretch in the resultant yarn, while variation between the final brass roller and the take-up spindle will determine whether the final cheese is hard, medium, or soft, according to the desired end-use.

The long heating zone enclosed in a bed of glass wool insulation makes the machine extremely bulky.

The most interesting aspect of the machine is, however, the Tempo TSR false twist spindle. This spindle is in fact a self-contained electric motor. It works at fantastically high speeds, the secret being the air bearings used in it. The spindle, which is the armature of the motor, is hollow. The nylon yarn is taken through the center of it and around the twisting unit.

The bearings are machined to within very fine tolerances and suspended on a bed of compressed air. This permits working speeds far in excess of anything previously attained on conventional false-twist machines. Units are rated at 50 watts.

The air is supplied from a compressed air line running the length of the frame, while each motor has its own electric leads. Although only running at a speed of 90,000 rpm at Heathcoats, it is stated that the Tempo spindles can work at rates of 120,000 - 125,000 rpm with comparative ease.

Running round the clock seven days a week, the spindle at Heathcoats will operate for three months without attention. After this it is completely stripped and serviced. Mill management feels that possibly it could run longer without trouble, but that quarterly servicing does insure the maintenance of the highest quality.

The heater units, as on most other false-twist machines, are calibrated against a standard "hot-pot" placed alongside them in the frame.

Factory space, as in every country, is expensive, so Heberlein has developed a newer model of the machine, which is vertically arranged and which is two-sided. An electronic control panel is situated beside this machine. Presumably the unit will serve many more spindles than the twenty-unit model installed at Carn Brea, otherwise it would represent such heavy capital investment as to make the machine commercially impractical.

Variables similar to those described on the horizontal machine are embodied on the new Heberlein machine.

One comment about the vertical machine and a possible thought on machine design for this type of yarn manufacture as a whole, is the fact that the vertical heaters may act as chimneys and so cause yarn irregularities. Although the Helanca high-test yarn is checked repeatedly—eight times in all, including two tests for dyeing—it is at once realized that, while faults will be detected when they do occur, the high rate of production on these new machines is such that quite sizable amounts of yarn may be affected.

An approach to quality control in the Heathcoat plant is a bounty of one shilling (about 14 cents) paid for every fault detected.

Progress on shuttleless loom

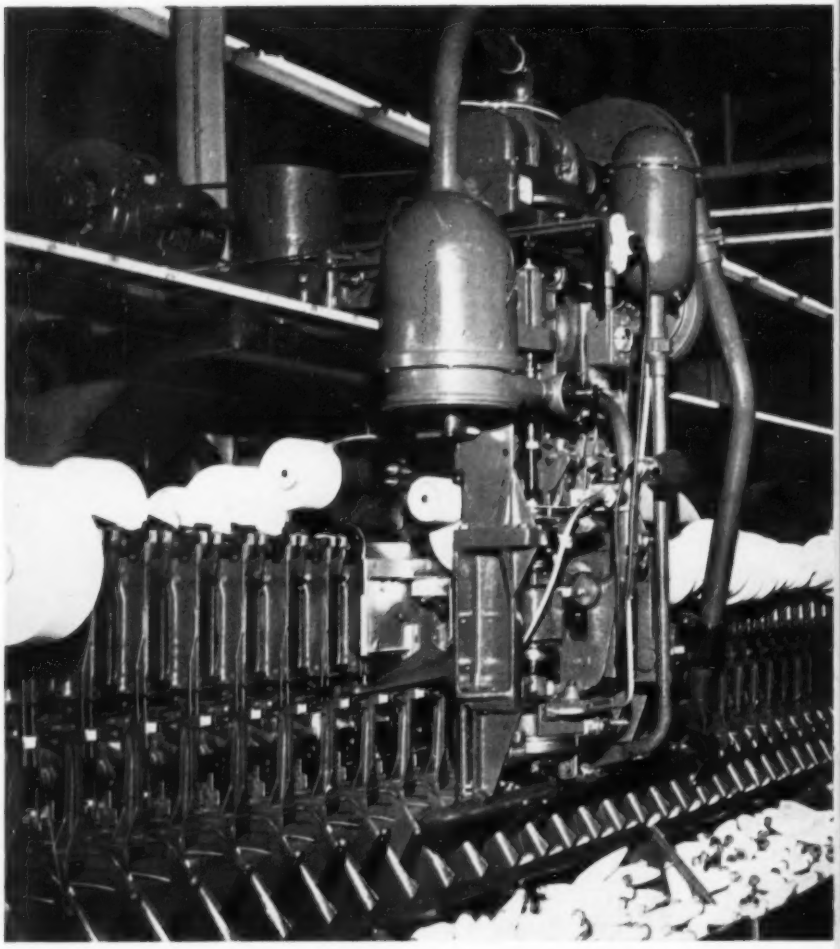
■ Stockholders of the Draper Corp. in reading the company's 1956 annual report found that Thomas H. West, president, has this to say concerning progress on the firm's shuttleless loom: "Particular interest in the trade centers on our shuttleless loom development. After more than a decade of effort, we believe our goal is in sight. Early this year [1957] the first production unit of these looms was delivered to a mill where they are currently being started up. In the next few months it should be possible to determine through operation of these looms under mill conditions whether or not they are ready for the market and some indication of the sectors of the market in which they should be most effective."

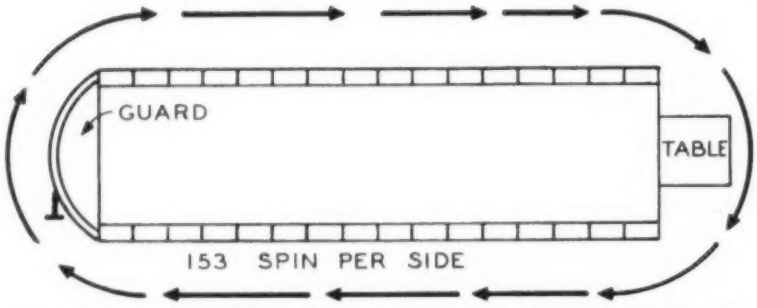
Here are some changes one mill made to

Cut Spooling Costs

by Manuel Wolfe

Exclusive





This schematic drawing shows the path the spooler operatives take as they work around the spooler. Note that there is only one table in the drawing. One table girl services the two spoolers.

ON OUR older system of spooling our operatives walked as many rounds "for nothing" as they did in servicing the spoolers. Actually they walked about 80 rounds per eight hours while working; then they walked back to the starting place 80 times.

We now operate the two spoolers around the clock with three fewer spooler operatives per 23-hour period. Our employees are on a bonus plan, and some days we get more production off the newer system with its fewer operatives than we did on the older system.

Each spooler is run by two operatives who are paid by dividing the number of cheeses produced between them to establish the pay rate. The two operatives walk around the spooler in the same direction at all times. Thus the 306 spindles are serviced on each spooler without the operatives having to walk back to start a new cycle.

As we use only one table per spooler, all our bobbins go to one end of each spooler for the convenience of the table girl. This saves her a great amount of walking. She services the two spoolers, and is paid at a rate of two hours per day as a table girl, and six hours per day as a spooler tender although she actually does no spooling. Her pay for 6 hours is based on the earnings of the spooler tenders.

We have converted the cheese tables at the end of each spooler into trucks. We have cut these tables into three sections and have mounted the sections on wheels. When the tables are full of cheeses, they are rolled to the warper creels. Thus the wheeled tables save transferring the cheeses to a truck.

Formerly we used two boxes at each spooler for the table girl to

use in repairing, rejecting, or sending bobbins to the tailing machine. We removed those boxes and placed a truck between the two spooler tables and equipped it with a small winder for use in repairing the bobbins. Since the table girl must pass this truck on each round she is not required to do any extra work with the new system.

Furthermore, we no longer have to pour up the boxes into the truck twice each eight hours as we formerly did.

Where we once used bobbin trucks under the spooler tables, we now use spinning doff boxes. The yarn trucker is saved a great amount of trouble in not having to transfer bobbins and yarn back and forth from trucks to boxes. The doff boxes are trucked in full of yarn, and are trucked out loaded with empty spinning bobbins. The truck holds eight doff boxes; and the trucker no longer has to return empty spooler boxes to the spooler room.

The yarn trucker who pushes the yarn from the spinning room to the spooler room leaves his truck standing loaded at the spoolers; the spooler yarn distributor empties the truck as he needs the yarn. He exchanges empty boxes for full ones at the truck.

Spinners: consider true tension in selecting traveler weight

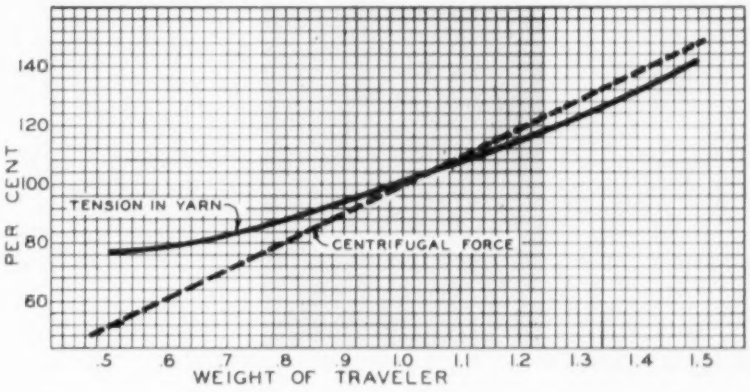
■ To aid spinning supervisors in the selection of proper traveler weights for improved yarn production and quality, the Victor Ring Traveler Co. recently published in *The Traveler* the accompanying chart which was prepared from data determined by laboratory test.

Theoretically, it was explained, this tension for any given weight of traveler would equal the centrifugal force*; but actually, because of factors other than centrifugal force which affect it, the tension of the yarn becomes greater in proportion than the centrifugal force as the weight of the traveler is decreased from normal, and less than the centrifugal force as the weight of the traveler is increased above normal. Note the curves on the chart.

Another contributing factor to be considered, according to this traveler manufacturer, is the relationship between the diameter of the package being built and the diameter of the ring. It is generally recognized that the winding angle of pull on the yarn will have a definite effect on tension exerted by the traveler.

With the newer, large package spinning equipment now in use in many mills, a 30-degree angle of winding pull is generally considered desirable for optimum operating conditions, as contrasted with the 25- to 27-degree angle of pull which was regarded as satisfactory with earlier equipment.

For the test illustrated by the chart, a No. 1 traveler was taken as the normal weight, and the variation in tension shown by use of travelers progressively lighter and heavier. A similar chart could be prepared with any other weight of traveler as normal, it was explained, but the shape of the tension curve would be similar. The shaded area of the chart (from .76 grains to 1.24 grains) indicates the range of weights above or below normal that it would be practical to use to obtain certain desired characteristics in the yarn. Weights outside the shaded area would prove unsatisfactory except under very unusual conditions, according to Victor Ring Traveler.



In varying the weight of the traveler from normal, it should be remembered that the use of a lighter traveler permits the balloon to build out, making the tension greater than the centrifugal force would indicate for the weight of the traveler used. If too light a traveler is used, whipping will occur with no separators and beating where separators are used. In either case, a common result is a "hairy" yarn.

From the viewpoint of production, an excessively light traveler is inadvisable because it builds up a soft bobbin with less weight of yarn. This means more frequent doffing, and considerable sloughing off in unwinding. It is interesting to note that the yarn content of a bobbin may vary as much as 20% simply by varying the weight of the traveler.

The use of a traveler heavier than normal means more tension and a stronger yarn, though with lowered elasticity. The bobbin is harder, with a maximum yarn content. When too heavy a traveler is used, ends down become a problem.

It should be remembered in consulting the tension chart that it assumes the best operating conditions, such as rings which are not excessively worn, thoroughly clean and properly lubricated machinery, and carefully controlled humidity. Since ideal conditions seldom prevail in most mills, the proper choice of traveler weight will continue to exercise the skill of spinning men.

*Centrifugal force can be determined by multiplying the constant .00034 times the weight of the traveler in grains times the ring radius in feet times the speed squared.

COTTON RESEARCH

Highlights of the 8th Cotton Research Clinic

Staff report

MILL MEN and representatives of allied interests gathered more than 200 strong at Savannah's General Oglethorpe Hotel on February 27 for three days discussion of the latest developments in cotton fiber and processing research.

Under the sponsorship of the National Cotton Council, the meeting heard reports of cotton research conducted in laboratories from Maine to Louisiana. The subjects of the papers presented ranged from interim reports on research still in progress to descriptions of the application of equipment now available commercially.

Abstracts of three of the reports discussed at the Clinic are given on this and the following three pages.

Effect on yarn quality of roll run-out in spinning

by James E. Dougherty*
Institute of
Textile Technology

DURING the past few years, many questions have been asked by mill operators regarding the influence of eccentric drafting rolls on yarn quality. How much run-out or eccentricity in drafting rolls on a spinning frame can be allowed before yarn quality is appreciably lowered? Are the run-outs of all the drafting rolls of equal importance? Do higher drafts require lower roll tolerances? What should be the maximum allowable run-outs for new rolls being purchased? Is run-out of drafting rolls more critical for certain drafting systems?

In an attempt to answer some of these questions, the Institute of Textile Technology about five years ago undertook a project to evaluate the effects of roll run-out on yarn quality.

Since the investigations reported in the literature are based on studies of top roll eccentricity, it was decided to conduct experiments using the bottom rolls.

The first series of tests was made on a Saco-Lowell Roth long draft spinning frame using a draft of approximately 18.75 while spinning 30s warp yarn from single creeled 1.60-hank roving from 1 3/32" Middling Delta cotton.

Eight uniform bobbins of roving were spun into yarn on eight spindle positions. Ten doffs of yarn were produced, with the amount of run-out in the front bottom steel roll of the spinning frame being changed for each doff. For the first test, a new front roll was purchased and used as received. For subsequent doffs of yarn, the roll was machined down at the bearing section to permit the use of eccentric sleeves which were made to introduce run-out.

Measurements of the amount of run-out at each spindle position were made by using a dial indicator gauge mounted on a magnetic base. The range in the deflection of the needle of the gauge as the roll turned was recorded as run-out in thousandths of an inch. The method of making the measurements is shown in the accompanying photo.

It was found that the new roll varied in the amount of run-out before the eccentric sleeves were mounted, the average value being 0.003 inches.

The yarn spun at each doff was tested for uniformity, using the Brush Analyzer. Correlations exist between front bottom roll run-out and both uniformity and strength of yarn. As greater amounts of run-out were introduced in the roll, yarn quality deteriorated. For the particular cotton, spinning system, and draft used in these tests, the point at which uniformity and strength of yarn began to decrease rapidly appeared to be about 0.007 inches.

LATER TESTS were designed to determine the effects of bottom steel roll run-out in a spinning frame on yarn quality over a range of drafts and to investigate the influences of run-outs of the front, middle, and back bottom rolls on yarn properties. The experiments were carried out on a Saco-Lowell Duo-Roth spinning frame, using 1 3/32" Middling California cotton processed into 1.00-hank roving.

Each bottom roll in the spinning frame was fitted with eccentric sleeves in the manner previously described. The run-out at each fluted section was measured in the same manner as before. Four yarn counts—18s, 25s, 32s, and 40s—were spun from the 1.00-hank roving under three conditions, as follows:

1. With middle roll run-out held constant at an average value of 0.007 inches and back roll run-out held constant at an average value of 0.0035", the bottom front roll run-out was varied by use of eccentric sleeves.

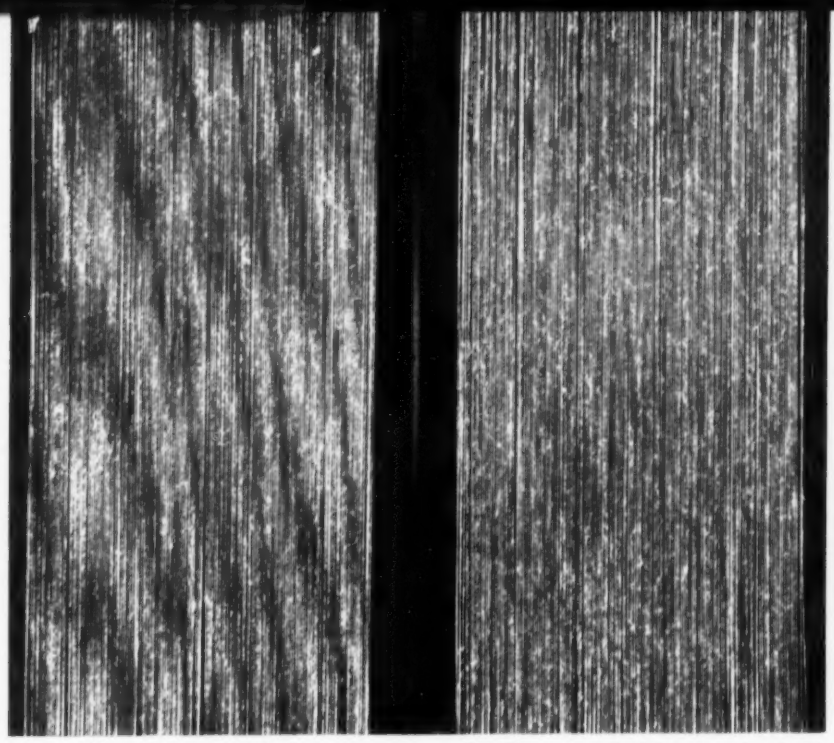
2. With front roll run-out held constant at an average value of of 0.0025 inches and back roll run-out held constant at an average of 0.0035 inches, the bottom middle roll run-out was varied by use of eccentric sleeves.

3. With front roll run-out held constant at an average value of 0.0025 inches and middle roll run-out held constant at an average value of 0.007 inches the bottom back roll run-out was varied by use of eccentric sleeves.

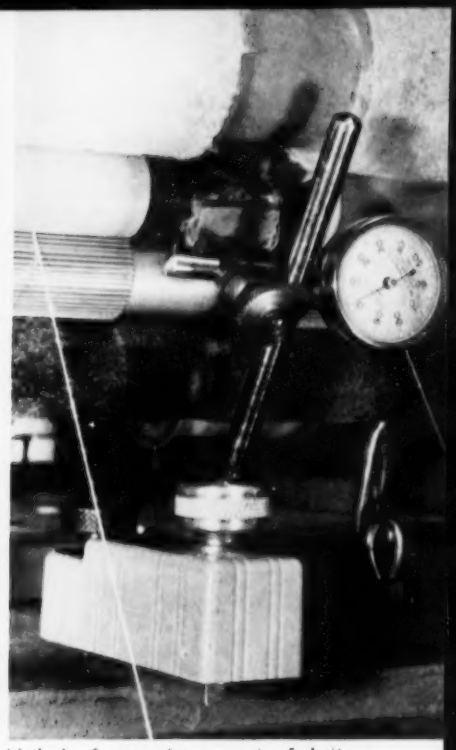
The yarn spun at each test condition was tested for uniformity, skein strength, and single-end strength.

A decrease in strength as front roll run-out increases is apparent

*Head, Textile Engineering Division



Effect of bottom front roll run-out on yarn quality. The yarn on the left was produced with roll run-out of 0.027", the one on the right with run-out of 0.002". Both yarns were spun from the same bobbin of roving, on the same spindle.



Method of measuring run-out of bottom front roll. Dial indicator gauge is mounted on a magnetic base; range in deflection of the needle as the roll turns is recorded as run-out in thousandths of an inch.

in all four yarn counts. Single-end strength and yarn uniformity also deteriorated.

Varying the amount of run-out in the bottom middle roll was found to have little or no effect on yarn quality, and practically no effects on yarn quality were found for the four yarns when bottom back roll run-out was increased up to 0.026 inches, probably because of the low drafts involved.

IN SUMMARY, results of the experiments indicate that, while middle and back bottom roll eccentricities are not critical factors affecting yarn quality, the amount of run-out in the front bottom roll can significantly lower yarn strength and uniformity. The deterioration in yarn quality takes place more rapidly as the amount of draft increases.

While it is difficult to list specific limits for front roll run-out, it should be possible for a mill to establish its own tolerances taking into account the amount of draft being used and the level of yarn quality desired.

As a final recommendation, it is believed that checking of front roll eccentricity in spinning should prove of value to any mill. As a minimum schedule, it is suggested that the checking should be done whenever a new roll is purchased or installed and also at the time of periodic overhaul of the spinning frame.

Sliver evener for drawing and roving frames

by Hugh M. Brown and
John S. Graham
School of Textiles
Clemson College

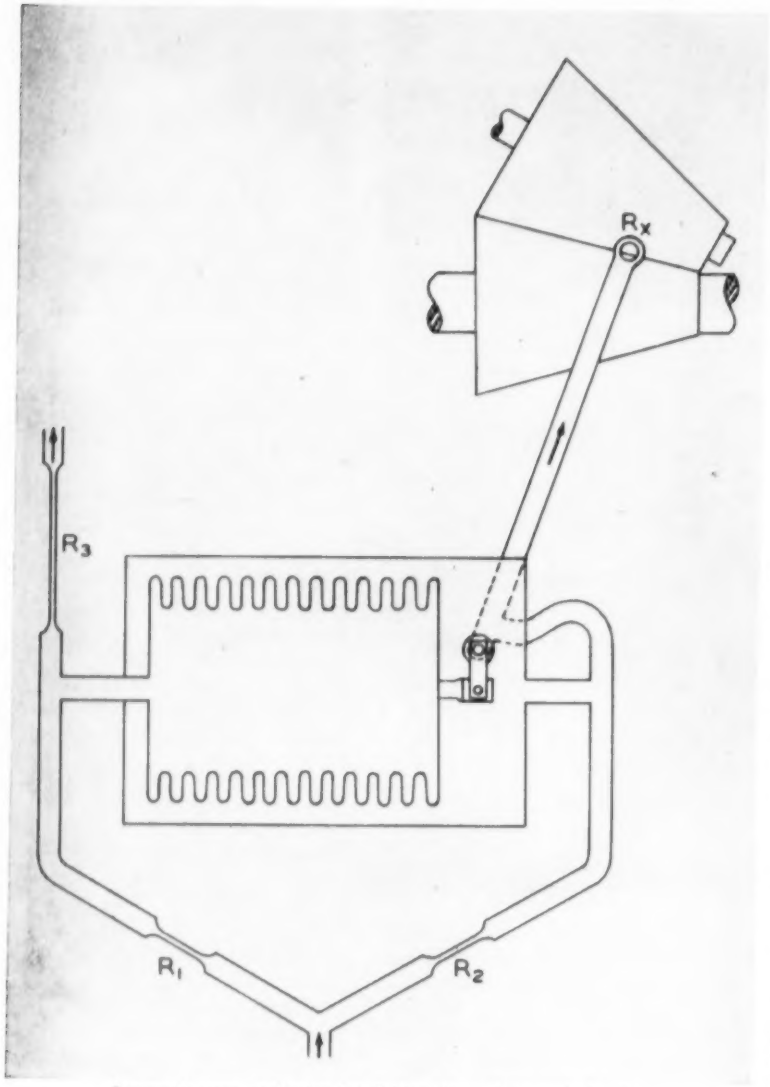
MUCH could be gained by the use of a device to feed various size slivers into the roving frame at the correct rates to produce a single uniform size roving from all deliveries. Such a device compensating for wide range variations would eliminate the necessity for producing closely-sized laps at the picker and out-of-sized laps could be run along with the others. Not only would there be a saving in the cost of sliver production but an improvement in the quality of yarn and fabric produced from the evener roving.

The problem is to select a method between those sufficiently elaborate to do a nearly perfect job regardless of cost, and methods that give so little evenning that they would not be used however low their cost. The problem might be attacked by having the roving frame deliveries independently driven. To change the speeds of the input rolls at each delivery could be accomplished, but would probably be more or less complex and expensive, to say nothing of the problem of maintaining like performance between the various units.

It seems more promising to devise a system having conical input rolls on a common shaft and to move the sliver laterally in relation to the tapered rolls so that it

Actual Sliver Correction on Finisher Drawing

Input Sliver gr/yd	Output Sliver gr/yd	Range gr/yd	Coefficient of Variation Per Cent
33.1	31.28	.7	.89
36.6	31.52	.5	.55
39.0	31.34	.3	.33
41.6	31.26	.6	.63
46.1	31.30	.9	.97
50.7	31.68	.6	.73



Pneumatic servo mechanism for shifting sliver along conical rolls.

will be fed in at the correct rate to obtain the desired size roving. At first glance this plan may also seem costly but it is believed that conical rolls in pairs with a weighted saddle carrying matching pairs of conical top rolls may be justified, assuming a simple servo mechanism for shifting the sliver (at the trumpet) can be devised.

Servos operating on the usual electrical or electronic principles are probably too expensive for consideration, and since it is common to have compressed air available in the mills, it is believed a simple mechanical-pneumatic servo can be engineered at a cost that would be justified by the results produced.

Several arrangements were tried in which both the movement of the trumpet and the sensing of sliver size were accomplished by means of compressed air. The arrangement which seemed best is a form of pneumatic Wheatstone bridge (see figure) using a bellows differentially in the analogous position of the galvanometer in an electrical bridge circuit. The bellows is made amply large so that the differential force caused by different size slivers in the trumpet will be sufficient to move the trumpet and positively position it for feeding in fiber at a nearly constant rate.

By making the resistances R_1 and R_2 (see figure) much less than the resistances R_3 and R_x the movement for a given sliver variation on the high side is less than for a similar variation on the low side and the positioning closely follows the curve required for perfect compensation of sliver variation.

The unit is found to work with rather low air flow at approximately 3 pounds pressure. The bridge resistances are easily made of 1/16" tubing, 1" to 4" in length. The trumpet is ¼" in diameter, and is easily threaded.

In practice the device gives even better performance than would be indicated by the theoretical curves. The accompanying table shows the variation in output sliver size for input slivers varying from 33 to 50 grains. Each figure in the table is the average of five readings with the range and coefficient of variation shown for each set. The compensation seems exceptionally good in that at no part of the range covered does there seem to be much trend away from perfect correction.

These data pertain to the average size of the sliver measured in one-yard lengths. Compensation for very short-term variations is not as good. It takes some time for the sliver trumpet to move to a new position called for by an

abrupt change in sliver size, for example, if a 25% step is made in the input sliver it takes approximately three inches of sliver for the correction to become complete. On the other hand, for steps or rapid changes in sliver size, the trumpet can be made to move too rapidly so that bad miscorrections are made for the sliver already having passed through the trumpet.

To adjust the device for different size slivers it is planned to have simple interchangeable trumpets that can be quickly inserted in the trumpet arms. Runs made with a larger trumpet gave excellent compensation for slivers varying from 41 to 62 grains. The evenness tester showed reductions in unevenness of approximately one-third.

The device would probably be too costly for use on spinning frames, but by using smaller trumpets the unit worked nicely with rovings. In a large number of tests the unevenness of the output roving was always reduced, the reduction being from very little to one-third, depending on the evenness and type of variation of the input roving.

Incidentally, by placing a pen on an extension of the trumpet arm the movement of the trumpet can readily be recorded on a moving chart. Such charts show that with roving passing through the trumpet at one yard per minute the movement follows almost exactly the trace given by the evenness testers.

This proves that the device does shift the roving in accordance with its size and indicates that this pneumatic bridge method could be used as an evenness meter.

Uniformity analysis using beta radiation

by P. R. Ewald and
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THE RADIATION absorption method offers a possibility for measuring the uniformity of cotton sliver, roving, and yarn. A number of beta-ray gauges are on the market in wide use, but an investigation showed that these are principally designed for web or sheet materials such as paper, plastics, rubber, and metal foil, and that none was applicable to yarns and rovings. Some could, however, be adapted to handle sliver or picker laps.

As a consequence, it was necessary to design and construct the beta-ray gauge from the beginning. It should be noted here that the preparation of radioactive sources is no job for the amateur; in fact, the Atomic Energy Commission will sell such isotopes only to approved customers.

The radioactive isotope which we find best suited for an instrument designed to measure sliver, roving, and yarn uniformity is Thallium 204, a pure beta emitter of 0.77 mev maximum energy and a half life of four years, which is a reasonable longevity considering the low cost of $5 per millicurie. A pure beta emitter is highly desirable from the standpoint of eliminating background and shielding problems.

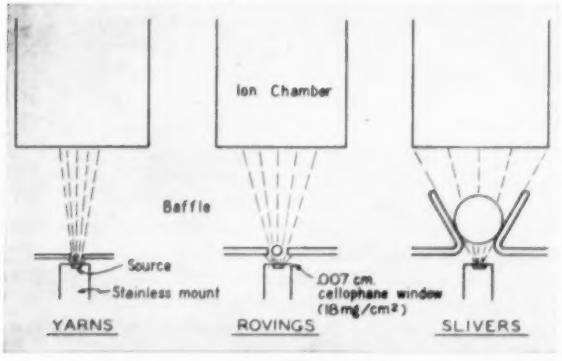
The source was prepared and mounted to give a radiation absorption arrangement as shown in the accompanying illustration.

For the radiation detector, an atmospheric pressure, air-filled ion chamber was chosen because of its simplicity of construction. A Model 145 electrometer amplifier was chosen, and a specially built preamplifier was used to match the ion chamber to the electrometer. A 0-1 milliampre d-c strip chart recorder, plugged into the output of the electrometer, completed the equipment needed for an instantaneous analyzer.

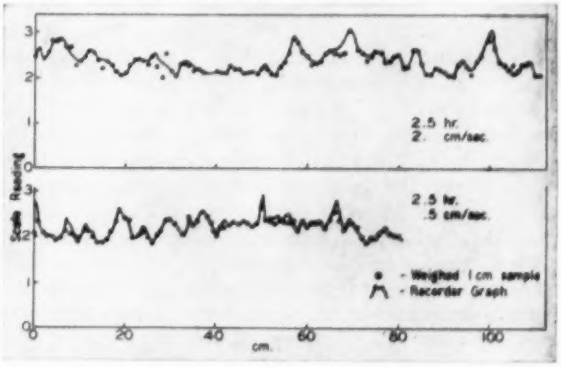
As a check on the operation of the analyzer, lengths of roving were run at two speeds through the instrument and the graphs carefully marked to identify check points on the roving. The roving was then cut into 2-cm lengths and each length weighed on a milligram balance.

The weighings were then superimposed as shown in the figure. The agreement is seen to be good, allowing for splices where the graph paper was joined, and for power line surges.

Mounting and collimation of the beta-ray source for a sliver, roving, and yarn uniformity analyzer.



Comparison of weighted values of roving samples and results obtained with the beta-ray analyzer.



"Standard" wool fabrics

A survey of mill methods which will interest woolen and worsted mill executives, including all department heads, finishers, sales personnel

Staff prepared
Exclusive
*Part 2**

COMPARED with other systems of cloth manufacture, it would seem that the only thing standard about making woolens and worsteds is the fact that there are no standards.

Within most fabric classes, wide variations exist in choice of stock, yarn manufacturing details, weaves used, finishing procedures, and even nomenclature; these conditions vary from mill to mill and often within the same mill in cases where economic requirements or raw material grades fluctuate.

Many times, end product results depend more on finishing than on the techniques of planning and executing the woven fabric; in both cloth manufacture and finishing, "the feel of the fabric" usually has more influence on manufacturing than any other single factor.

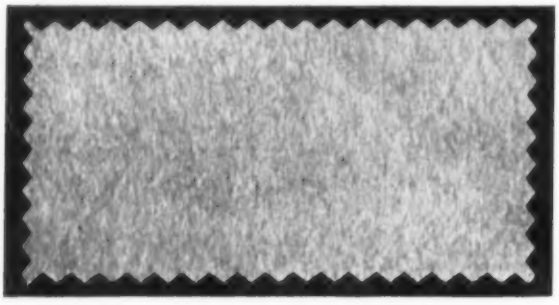
On the wolen system the selection of stock, blending, carding, and spinning are probably the critical manufacturing steps; in worsteds, it is more a question of fabric design and weaving.

In both systems, cost of manufacturing usually dictates if a fabric of a certain weight is made from stock and counts of a particular specification, fabric texture, and finishing routine, or if the same weight is arrived at by using better stock, finer yarns, increased ends and/or picks per inch, and possibly more painstaking, higher shrinkage finishing.

Considering these variations and the reasons for variation, the following are descriptions of several well known woolen and worsted fabric classes; particular emphasis is directed to those manufacturing procedures which make the fabrics what they are.

*Part 1, which appeared in the April issue (pp. 106-109), contained descriptions of birdseye suiting, boucle, broadcloth, and serge.

FLEECE



Fleece	
Finished weight, ounces	14½
Ends per inch in loom	27
Picks per inch in loom	27
Warp yarn stock	lamb's wool
Warp yarn count	3½ run wool
Filling yarn stock	lamb's wool
Filling yarn count	3¼ run wool
Width in loom, inches	68½
Width finished, inches	56
Weave	crowfoot
Remarks	velour stock-dyed

Fleece is a deep napped, woolen fabric with a characteristic soft handle similar to a good bed blanket. A bulky, warm fabric can be achieved through finishing (napping), or the fleece can be a pile fabric. Fleeces are sometimes knitted.

When the nap is short, the fabric is known as velour; a long napped fleece is known as shag; when the nap is long, silky, wavy, and pressed flat, the fleece is called Ziberline.

Wool system yarns used are often blended with alpaca, camel, vicuna, cashmere, or others.

Fleeces usually weigh from 18 to 24 ounces per 60-inch width. In a range from 18- to 24 ounces they are used for men's top coating; 24- to 32-ounce ranges are used for men's overcoating. Outercoats for women's and girls' wear are also made from fleece fabrics.

Cloth Manufacture. Stocks gen-

are not standard!

erally selected for fleeces are straight and long and are made in yarn counts ranging from 1¾ to 3½ run on the woolen system. Blends often contain mohair, alpaca, coarse wools, and 10 to 20 per cent of short fine stock, possibly reworked.

In carding, roving is made lighter than would be common for finer stock blends because the coarser stock does not lend itself readily to drafting in spinning. By making roving as light as possible, minimum drafting only in spinning is required.

Twist is held to a minimum in spinning so as to get as soft a yarn as possible and still have sufficient weaving strength. The most popularly used fleece weave is the crowfoot.

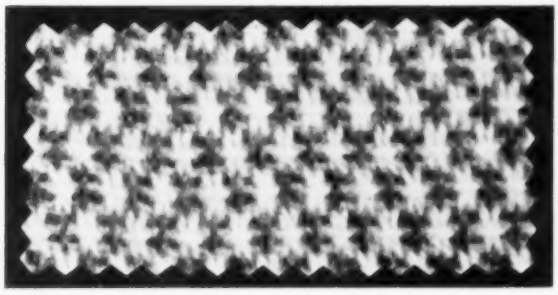
Selection of the proper stock is the most critical phase of fleece manufacture. The length and density of nap is directly dependent on the quality of the wools used. It is a case where "you get out of the fabric in finishing only what you put in."

Typical Finishing Routine, Stock-Dyed Fleece.

Burling and Mending.
Dry Cleaning.
Soaping.[1]
Fulling.
Scouring.
Wet Napping.
Drying.
Dry Napping.[2]
Shearing.
Semi-Decating.[3]
Final Examining.

1. Carbonizing may be necessary in fleeces. If it is, it precedes soaping and is accompanied by after-crushing or dry milling.
2. To obscure weave and produce a soft hand.
3. If flat appearance is required.

TWEED



Tweed	
Finished weight, ounces	16
Ends per inch in loom	28
Picks per inch in loom	14
Warp yarn stock	58s
Warp yarn count	3¼ run wool
Filling yarn stock	56s
Filling yarn count	1 run wool
Width in loom, inches	64½
Width finished	60
Weave	plain
Remarks	stock-dyed

The term tweed denotes a wide range of fabrics. Generally, tweeds are all-wool fabrics often made of coarse wools which give a homespun effect, although sturdy, better grades are soft and flexible.

Tweeds can be made solid colored, multi-colored (through stock-dyed yarn effects in yarn only), or striped; checked or plaid weave effects may be had by using various stock- or yarn-dyed yarns in warp and/or filling. Often, additional surface interest is obtained by the addition of either kemps or nubs in yarn manufacture.

Weights vary widely: In men's wear, 12- to 15-ounce per 60-inch width goods are used for suiting, slacks, and odd jackets; 15- to 16-ounce tweeds are used for outer coats; 22-ounce weights are used for overcoats. In lighter weight versions, tweeds are used for dress goods.

Cloth Manufacture. Considerable attention has been directed to the manner in which nubs are placed in yarns intended for tweeds [see TI for October 1955, p. 118]. Generally, nubs are inserted on the woolen system in two ways: by a nub box or some other device at the card, or by blending nubs in at the picker. The latter method is more used because of the chance for better distribution of nubs in the yarn.

When blending nubs, workers on the first breaker must be raised ⅛-inch, setting the doffer off to .024 gauge. To avoid crushing nubs, the Peralta is raised. On second breaker, first and last workers are kept down—but all other workers on this card are raised. On the finisher, workers are raised to .024 gauge, setting doffers off.

Nub boxes are never completely satisfactory; box shapes (generally

"hog-trough") require a good deal of manual stirring to maintain a uniform nub distribution. The more recent point of applying nubs in a box is into the web at the delivery end of the Peralta. If nubs tend to get smaller as carding progresses, after having inserted them in blending, doffers should be stripped.

The best nubs are slightly soft, but are tough; if they are too hard, they won't stick in the yarn. The best stocks to use for nubs are wool noils and short, fine wools.

Yarns for tweeds range from about 5/8 run (for women's wear) up to 3½ run and finer. Stock used depends on the yarn size being spun; coarse, long wools are used for lower counts. When nubs are to be inserted, a little better stock should be selected to help hold the nubs in the yarn.

In spinning, travelers selected should be slightly larger than normal for the particular counts being spun in order to accommodate the nubs. Drafting in spinning cannot be as high as normal because the nubs tend to pull apart under high drawing force; roving is usually made lighter than normal to compensate for this.

Weaves for tweeds are numerous: Plain, fancy float variations on plain weave, 2 x 2 twill, and 2 x 2 broken, checked, and figured twills.

Tweeds from the British Isles are of several characteristic types; Saxony tweeds are made largely in the West of England and contain fine quality Saxony and Hungarian wools. The cloth is smooth and soft and may have a clear or dress face finish.

Tweeds, often containing coarser wools such as Cheviot, are made in the Border mills of Scotland. Harris tweed is a firm, heavy, and rough tweed, handwoven and sometimes handspun from 100 per cent virgin mountain wools in the islands of the outer Hebrides.

Donegal tweeds, handwoven in Ireland, are medium to heavyweight cloths made from coarse wools and often distinguishable by a characteristic speckled pattern.

Typical Finishing Routine, Stock-Dyed Tweed.

Burling and Mending.
Dry Cleaning.
Carbonizing.
Dry Milling.
Soaping.
Fulling (slight).
Scouring.
Extracting.
Drying.
Shearing.
Semi-Decating.[1]
Steam Tentering.[1]
Final Examining.

It is advisable to avoid stretch in the warp direction when scouring tweeds. This is usually accomplished by use of a "lamb's tail" board at the delivery of washer rolls to replace tension created when the rolls deliver to an upper carrier roll.

1. In finishing tweeds, the most important point to consider is keeping the yarns in the fabric as round as possible. In Scotland, this is considered even in fulling through use of a kicker fulling mill. Many mills in this country prevent flattening of yarns at the end of the fulling cycle by semi-decating with a soft leader without pumping, following this by straightaway steam tentering. In tentering, the goods are steamed and kept on pins to maintain even fabric width.

MELTON

Typical Meltons

Finished weight, ounces	17	30
Ends per inch in loom	44	24
Warp yarn stock	½ blood	70% mill waste 30% fine wool
Warp yarn count	4 run wool	1¼ run wool
Filling yarn stock	as warp	as warp
Filling yarn count	4 run wool	1¼ run wool
Width in loom, inches	70	75
Width finished, inches	56	56
Weave	plain	plain
Remarks	piece-dyed	piece-dyed

Meltons are heavily fulled woolen cloths with a compact, pressed, lustrous surface which obscures the weave and gives the appearance of felt or heavy broadcloth. The cloth has no nap, is often piece-dyed. Weights per 56- to 60-inch widths can vary considerably from about 12 ounces to 36 ounces per yard.

Meltons are used for men's overcoats, uniforms, and formal wear; also children's coats and snow suits are made from them.

Cloth Manufacture. Better meltons are made from 64s stock and there is a wide range downward in grade, but the outstanding characteristic aimed for is softness. Generally, warp yarns are made stronger than are filling yarns; yarn count variation is from 1¼ to 3½ run.

There is also considerable variation in the weaves selected for meltons; some meltons are single cloth plain weaves, some are 3- or 4-harness single cloth twills (2 x 1 twill is common), and some are double cloths with both layers weaving plain weave.

Typical Finishing Routine, Piece-Dyed Melton.

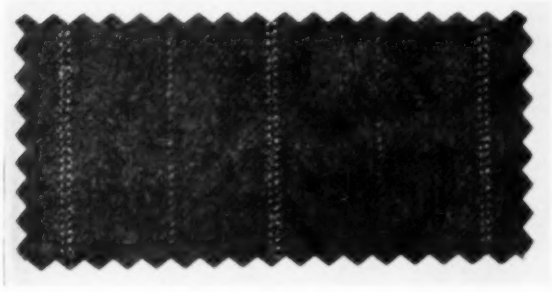
Burling and Mending.
Dry Cleaning.
Tacking.

(Continued opposite page)

Continuation of typical finishing routine for piece-dyed melton:

Carbonizing.
Dry Milling.
Soaping.
Fulling (slowly, for dense bottom).
Scouring.
Extracting.
Drying.
Semi-Decating.
Wet Decating.
Dyeing.
Extracting.
Drying.
Shearing (thorough, avoiding "roughing-up").
Full Decating.
Rotary Pressing (light).
Final Examining.

SOFT FINISHED WORSTED



Soft Finished Worsted

Finished weight, ounces	12-12.5
Ends per inch in loom	55
Picks per inch in loom	56
Warp yarn stock	64s
Warp yarn count	2/36s worsted (15T-S)
Filling yarn stock	64s
Filling yarn count	1/21s worsted (11.5T-Z)
Width in loom, inches	73.3
Width finished, inches	58
Weave	2x2 twill
Remarks	piece-dyed

Soft finished worsted cloth is a firm, closely woven, soft fabric which is less likely to become shiny through use, because of a slight nap. In the men's wear trade, this fabric class is often called "unfinished worsteds," but this is a misnomer. Soft finished worsteds are often woven with synthetic or silk decoration stripes; they may be stock- or piece-dyed. Warp and filling are usually two-ply worsted yarns.

A weight range of 12 to 14 ounces per 60-inch wide yard is usually used for men's and women's suitings, men's slacks, trousers, and formal clothes. Goods in 16- to 22-ounce classes are used for outercoats.

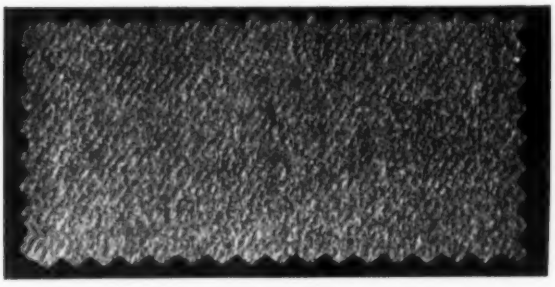
Typical Finishing Routine, Stock-Dyed Soft Finished Worsted.

Burling and Mending.
Tacking.
Soaping.
Fulling.
Scouring.
Extracting.
Drying.
Shearing.
Full Decating.
Semi-Decating.
Final Examining.
or[1]
Semi-Decating.
Rotary Pressing.
Final Examining.

(Continued next column)

1. The difference between the two different sets of final steps in the routine is one of quality. The full decating, semi-decating, final examining sequence eliminates excessive shrinkage in the finished product through the effect of full decating. The semi-decating, rotary pressing, final examining sequence is used on lower quality work.

FLANNEL



Typical Flannels

Finished weight, ounces	11	14	12
Ends per inch in loom	38	44	33 (finished)
Picks per inch in loom	40	46	33 (finished)
Warp yarn stock	AA pulled	64s	60s
Warp yarn count	4½ run wool	4½ run wool	single wool
Filling yarn stock	AA pulled	64s	60s
Filling yarn count	4½ run wool	4½ run wool	single wool
Width in loom, inches	74½	72½	——
Width finished, inches	56	56	56
Weave	plain	plain	2x2 twill
Remarks	piece-dyed	piece-dyed	lining MIL-C-3191A piece-dyed

Flannel is a soft, light, or medium weight woolen fabric which is usually fulled and slightly napped. Some flannels have a worsted warp and wool filling or vice versa. Also, they are sometimes made with chalk stripes, but usually flannels are solid colored.

Depending

On the woolen system the selection of stock, blending, carding, and spinning are probably the critical manufacturing steps . . . . In worsteds it is more a question of fabric design and weaving

on quality, either 2x2 twills or plain weaves are used. Weights per 60-inch widths usually range from 11 to 14 ounces per yard. Wide use is made of the fabric for men's suiting, slacks, trousers, odd jackets, underwear, women's coats, suits, dresses, and infant's and children's wear.

Cloth Manufacture. Production of yarns that are soft (minimum twist) and from well-blended stock is of prime importance. The same general procedure holds for flannels as it does for woolen yarns for coverts.

Besides requiring fine wools or noils, women's wear flannels generally require additional processing precautions of cleanliness and freedom from hair fibers because pastel shades are usually required. Men's wear, usually calling for darker shades, is not so critical in this respect.

Typical Finishing Routine, Piece-Dyed Flannel.

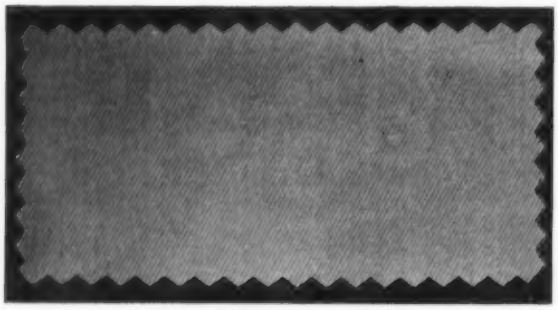
Burling and Mending.
Dry Cleaning.
Carbonizing.
Dry Milling.
Soaping.
Fulling.[1]
Scouring.[1]
Extract (open).
Dyeing (usually neolan and Palatine dyestuffs).[1]
Extracting.
Drying.
Shearing.
Examining for cleanliness.[2]
Semi-Decating (with soft leader).
Steaming.[3]
Final Examining.

1. Some mills will tack prior to fulling, scouring, and dyeing; others get along without this step.

2. This examination is critical for women's wear requiring pastel shades.

3. Goods are steamed through and pumped slightly to arrive at a soft and mellow handle. The more pumping done, the more luster arrived at in the flannel.

GABARDINE



Typical Gabardines

Finished weight, ounces	12-12.5	14.5	15.7
Ends per inch in loom	105	112 (finished)	120
Picks per inch in loom	60	56 (finished)	52
Warp yarn stock	64s-70s	64s	70s
Warp yarn count	2/50s worsted (20T-S)	2 ply worsted	2/43s worsted
Filling yarn stock	64s	64s	70s
Filling yarn count	2/50s worsted (20T-S)	2 ply worsted	2/43s worsted
Width in loom, inches	64	——	64½
Width finished, inches	58	56	60
Weave	2x2 twill	2x2 twill	2x2 twill
Remarks	piece-dyed	top-dyed MIL-C-10176A (type I, Class A)	piece-dyed

Gabardine usually contains more ends than picks, thereby exhibiting steep, diagonal, close-set ribs; they are warp face cloths.

The goods are firm and contain a hard finish; they are made from highly twisted worsted yarns, sometimes so fine that the twill line is not readily visible (known as sheen gabardines). These goods are usually piece-dyed, and because of their characteristic construction, have water repellent properties.

In weights per 60-inch running yard, 12 to 16 ounces are commonly used for men's suits, outer coats, raincoats, odd jackets, slacks, riding breeches, and uniforms. Gabardines are also used for women's suits.

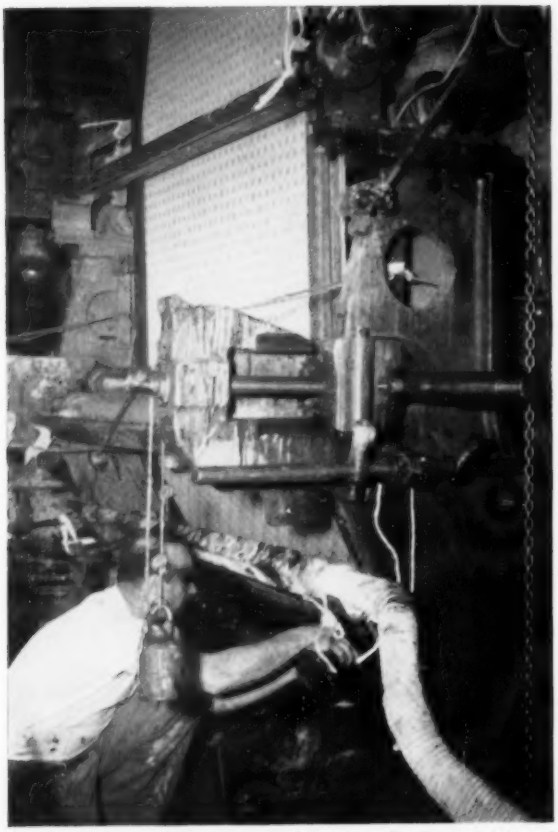
Typical finishing Routine; Piece - Dyed Gabardine.

Burling and Mending.
Singeing.[1]
Continuous Crabbing.[2]
Scouring.
Semi-Decating.
Final Examining.
Continuous Crabbing.[2]
Dyeing.
Extracting.
Continuous Crabbing.[2]
Drying.
Shearing.
Rotary Pressing (light).

A characteristic of gabardine finishing is to produce a dull finish in order to minimize objectionable appearance due to unevenness in the yarns. The object is to obtain bloom without polish.

1. Singeing is another characteristic of finishing gabardines. It is done to obtain a clear face.

2. Continuous crabbing is important to accomplish the "set" of the fabric and to prevent crocking, excessive washer wrinkles, and dye kettle wrinkles. Crabbing also produces some luster. Yorkshire crabbing is done only on lower grade gabardines; it is not necessary on the better quality goods.



Suction device in right foreground removes fly from vicinity of print roller.

They roller print glass fabrics

Fly sticking to the print rollers was a major problem

Staff prepared
Exclusive

VELVERAY Corp., with plants in Clifton, N. J., and Fall River, Mass., is a novelty printer of fabrics essentially for decorative use. Among its specialty operations at the Clifton plant is that of roller printing of glass fabrics.

For the most part, the glass fabrics processed at Velveray are used in the drapery and curtain field, where the inherent properties of glass such as draping, wrinkle-recovery, and nonflammability are particularly desirable.

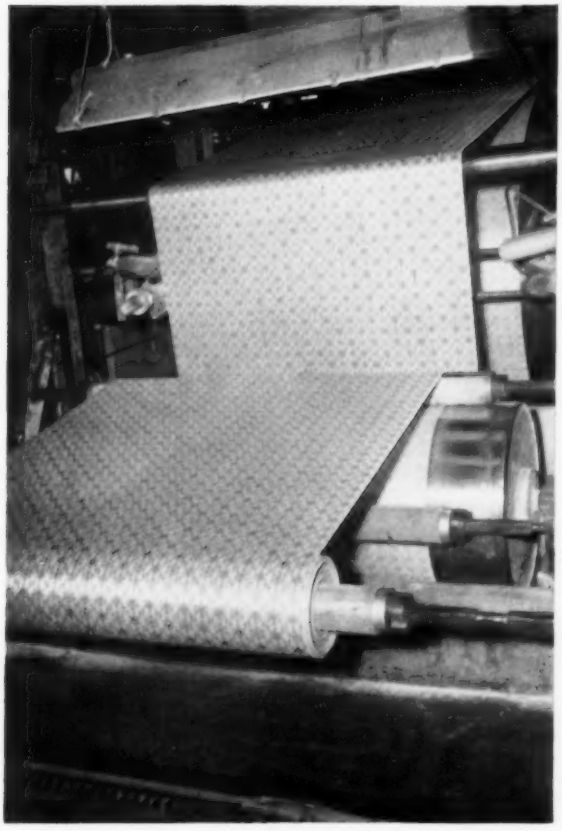
In the printing of glass fabrics the problem is not only one of color application with economy and uniformity in quality of printing but also one of achieving a printed film that will not detract from the inherent qualities of the glass fabric, and which will possess besides such necessary properties as permanency and color value.

Acceptability of the printed glass fabric depends on the proper selection of resins and combinations of these. The ultimate printed film must be pliable and washable, with satisfactory light and crock fastness. Velveray has done much development work along these lines to meet the trade's requirements in a complete range of shades.

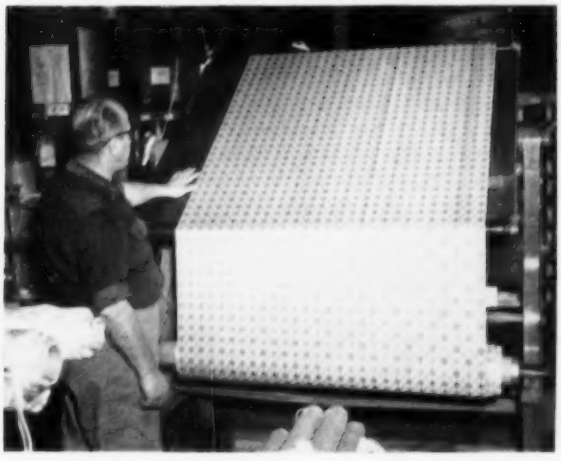
Like any other fabric, glass presents problems in printing; apart from the pigment-resin formulation,

(Continued on page 155)

The fabric is batched after printing, drying, and curing.



Inspector examines fabric for shade, quality of fabric, and printing.



WARP SIZING

Conclusion of discussion on the properties of a well-sized warp

By Paul V. Seydel, D.Sc.
Seydel-Woolley & Co.

Exclusive

Article 13*

Slasher men, overseers, and superintendents "feel" warps as they come off the slasher to determine harshness, dampness, stiffness, etc. This specially posed photograph shows the wrong way: Never insert the hand in the warp sheet to feel the yarn; ridges are built up on the loom beam which can give trouble in weaving.

Slasher man with years of experience shows the proper way to check his warp while the slasher is running.

Yarns Too Harsh. Harshness is generally due to improper ingredients or to lack of sufficient softener in the size formula. Harsh yarns will increase friction, making weaving more difficult, as well as giving an unpleasant hand to the cloth. A harsh feel is sometimes due to the starch and may be a result of improper preparation of the starch, generally due to foreign matter present. Sago starch is the principal offender in this category. The higher grade domestic starches practically never cause trouble. Gelatin and synthetic sizes usually do not show this difficulty.

In gelatin sizing of filament yarns, a condition is sometimes encountered in which the warps feel sandy. This will happen if the gelatin has not been properly swelled in cold water before heating. Sticking on the cylinders will break up the smooth size film surface and also produce a sandy feel.

Harshness, particularly when

*The first installment of this series, which deals with all phases of the warp sizing operation for cotton yarns and yarns produced from man-made fibers, appeared in the May, 1956, issue of this magazine. Subsequent articles have dealt with properties of cotton fiber and yarns, properties of man-made fibers and yarns, materials for sizing, analysis and testing of materials for sizing, and the sizing process.

due to the starch, may sometimes be decreased by longer periods of boiling. Excessive drying on the slasher, or baking the size film, will produce a harsh warp. This can be readily checked and corrected by decreasing steam pressure or increasing slasher speed or both. Increase in the amount of softener will generally remedy this condition.

Yarns Too Soft. Soft warps are due to a number of causes. Insufficient size will of course give a soft warp. This may be due to an improper formula, if the trouble is continuous. If the trouble is intermittent, it may be due to excessive condensation of steam in the size, use of wet steam, improper washing down of slasher blankets, or carelessness in weighing out the starch or gelatin, particularly where these ingredients are added in five- or six-bucket loads.

Where starch-based size mixes are prepared more than several hours ahead, where they are stored overnight, or where agitation is too great in the storage kettle, the mixture will be thinned excessively and will then tend to produce soft warps. Too much softener or deliquescent in the formula will also give a soft warp. In most cases the remedy indicated is an increase in starch content of the formula.

Excessive foaming will cut down the amount of size taken up by the warp, giving soft warps.

Yarns Too Damp. Damp yarns are susceptible to mildew, and will generally chafe badly at the drop wires and harness, since the size film is soft and ineffective. Generally, damp yarns are due to too high slasher speeds. This should not be corrected by increasing steam pressure, because this simply has the effect of baking the yarn. (Condition of the drying cylinders should, of course, be checked to determine if excessive condensation of the steam is occurring, or whether the buckets or traps for condensate removal are operating properly.)

Occasionally damp yarns are found which have been sufficiently dried, but due to excessive use of deliquescents have picked up too much atmospheric moisture. Where damp warps are found, storage conditions should be carefully checked to be sure that humidity is not too high, and that dripping of moisture on the warps does not occur.

An unusual way to check regain. This old-timer has been running slashers for years; can estimate regain by smelling the running warp. His accuracy is said to be within one-half of one per cent!

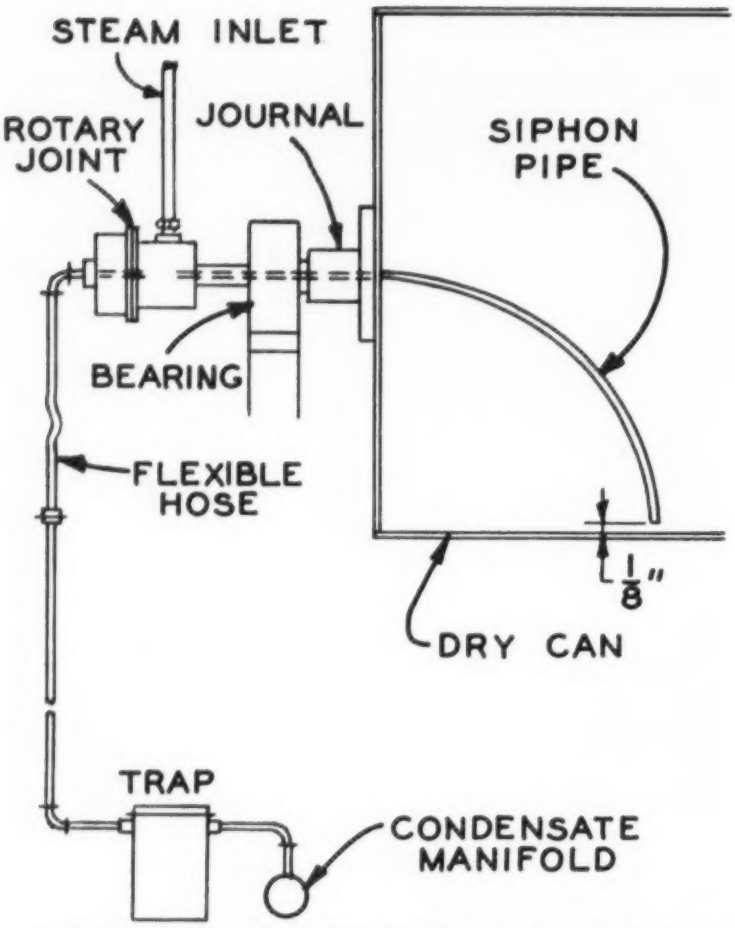
Yarns Too Stiff. A yarn that does not have the necessary flexibility and pliability will not weave well. Stiffness of a sized yarn is a desirable quality only up to a certain point. Excessive stiffness may be decreased by an addition of softener. In some cases, stiffness is a result of too much size on the yarn. This can be remedied either by increasing the weight on the squeeze rolls, or by diluting the size formula.

Sometimes yarns which are too stiff are produced by new slasher blankets, or blankets which have been put on the finishing roll before being properly broken in on the first roll. It is also possible to use too much slasher blanket . . . . this would give too soft a cushion and not dress off enough size, giving both a stiff yarn and one that has a tendency to shed.

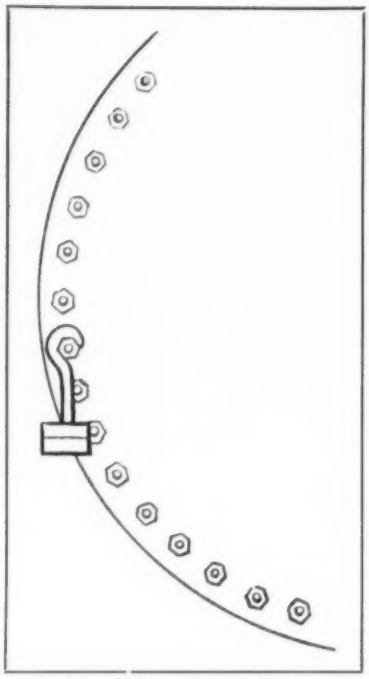
Dead Yarns. A warp that has been stretched too much on the slasher will not have the necessary elasticity for weaving. If these yarns do not have sufficient elongation, the beat of the reed will stretch them beyond their limit with a resultant breakage. Sizing normally decreases the elongation of the yarns, but a properly sized yarn should have only a small percentage decrease compared with the unsized yarn.

A large decrease is due to mechanical defects in slasher operation. Usually 1½-2% stretch on the slasher is normal for cotton operation. Up to 3% may be had under some conditions, but 3% or greater is detrimental to the best results in the weave room. For rayons to be woven in certain types of constructions, more stretch will give better weaving, preventing the yarns from becoming too slack. This is particularly true of twills and gabardines. Up to 6% stretch may be required.

The stretching of the yarn be-



If the condensation in the cylinder is not removed, uneven drying may result. Check the bucket system or the siphon system for proper operation.



Check cylinder to see if free moving. Cylinders that are not positively driven may be checked to see if they are turning freely by removing yarn from cylinder and hanging a weight of a few pounds at the outer edge. Check in several places because cylinder may bind at only one point.

tween the section beams and the size box, or between the drying cylinder and the loom beam, is not as important as the stretch while the yarn is wet. When the yarn is stretched dry it will recover most of its original length, but when it is over-stretched wet, and dried while stretched, the life is taken out of it.

The points that should be checked for trouble are the bearings, the gears, and the metal finishing roll. If the finishing roll is larger than the first roll, stretch will occur here—the finishing roll should preferably be one or two hundredths of an inch smaller.

The gears, of course, should have the proper number of teeth. If the drying cylinders are not driven, they should be checked to be certain they will turn freely. This may be tested by removing the yarn from the cylinder and hanging a weight of a few pounds at the outer edge. The weight should cause the cylinder to turn. This test should be repeated several times around the circumference. If the cylinder does not turn freely, the bearings need attention, or the shaft truing, or the slasher aligned and leveled.

The amount of stretch may also be decreased by removing a few layers of cloth from the delivery roll, thus decreasing its diameter. There should be just enough cloth to prevent slippage of the yarns on the cylinder and to give good splitting at the lease rods in order to prevent breaking out. With multimotor drives, this may be adjusted by the beam motor control.

Lumps and Streaks. Streaks and spots of size on the warp sheet are usually due to slasher imperfections. A new blanket on the finishing roll may cause a lap streak across the warp. Blankets must be properly brushed, and the new blankets should be broken in on the first roll, then moved to the finishing roll, or if the rolls are the same weight, simply swap rolls. Many operators prefer the two-piece system of winding blankets, as described under "Squeeze Rolls." Sometimes, due to careless handling, a roll will be allowed to drop on the copper rolls, thus denting them. This dent will leave a streak of heavily sized yarn.

From time to time, lumps of hard size are found on the warp. These lumps, pressed into the warp by the squeeze rolls, and dried on, sometimes glue the yarns together, with the result that ends are broken out by the lease rods. If these lumps get as far as the loom, ends may be broken out when they catch on drop wires or heddles.

The presence of these lumps is an indication of insufficient agitation. When the size is not well agitated, a scum forms on top. This scum will not mix in again with the size, no matter how much stirring it gets.

If the lumps are formed in the size box, the agitation produced by the steam must be increased, either by use of higher steam pressure, or more or larger holes in the steam pipe, or by proper arrangement of the steam coils to direct the steam for more efficient agitation (construction details will be given in a subsequent article).

When lumps form in the kettles, the agitation must be increased by increased speed or redesign of stirring apparatus.

With insufficient stirring, hard size lumps will form behind or between steam coils. This occurs most often where the steam coils are too close to the kettle walls, making it difficult to clean behind the coils. A filter over the inlet to the size box will catch these lumps, and eliminate this as a source of trouble.

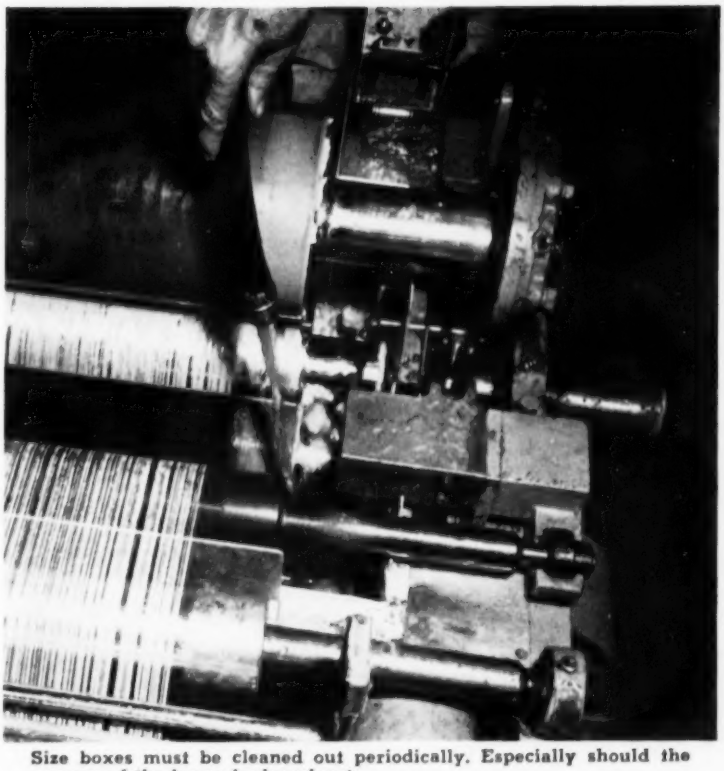
Another source of trouble is fly or other dirt that falls into the size and becomes glued onto the yarn. Where fly accumulates over the slasher or on the slasher hood, it must be frequently removed.

Still another source is from size blankets that are not properly washed down. Stoppage of slashers for any length of time without washing down the rolls will result in the cooling and hardening of fairly large amounts of size that are held at the nip of the rolls. Be careful not to dilute the size too much by excessive washing down.

Size boxes, too, must be thoroughly washed out from time to time. If the job is not carefully done, bits of size may be left in corners or under coils, and harden.

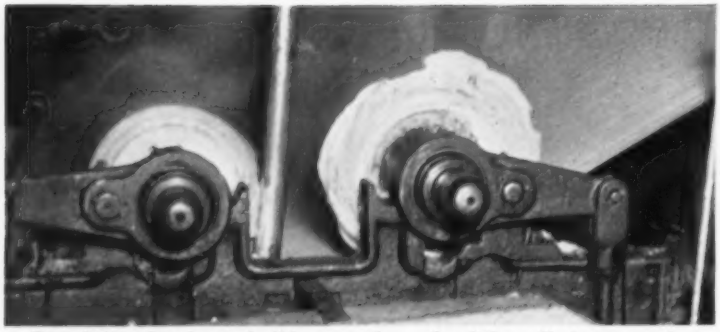
If there is any tendency to formation of lumps or collecting of dirt in the size box, the immersion roll should not be run too low, as it will increase the chance of picking up lumps.

Slasher blankets should be maintained in good condition. If the edges become frayed, they tend to build up cakes of congealed size at the ends of the rolls. A small amount of this is all right, but if a



Size boxes must be cleaned out periodically. Especially should the corners of the boxes be hosed out.

Between creel runout and starting a new set, this man steam cleans his slasher; special attention is given to the boxes, rolls, hood, cylinder sides, and the floor around the size box which may have become soiled.



Permitting the size to build up on the ends of the rolls is an unwise practice. When the gelled size on the rolls falls back into the size box, it does not melt, but may be pressed into the warp in lumps. This can cause a breakout at the front of the slasher. If the hard size gets through the slasher, it will cause trouble in weaving.

large amount collects some is going to fall off, with resultant hard size spots.

Variations in Dyeability; Tendency to Streaky Dyeing. It is well known that tension variations at certain points in processing of rayon will cause variations in the dyeability of the yarns. Some of these can occur in the slashing operation. Excessive tension on a few ends maintained while they are damp and hot will cause these ends to dye differently from their neighbors.

This is a result of the property of rayon (and of many other manmade fibers) to change its crystalline form under tension. Generally heat and moisture are required in addition to produce any appreciable change. The increase in crystallinity of the fiber decreases its ability to swell, and hence its ability to take up dyes.

That this can occur has been shown by tests on individual fibers which have been subjected to this kind of treatment. It has been shown that dyes will diffuse much more slowly into such fibers than into untreated fibers. Probably also the total take-up will be less.

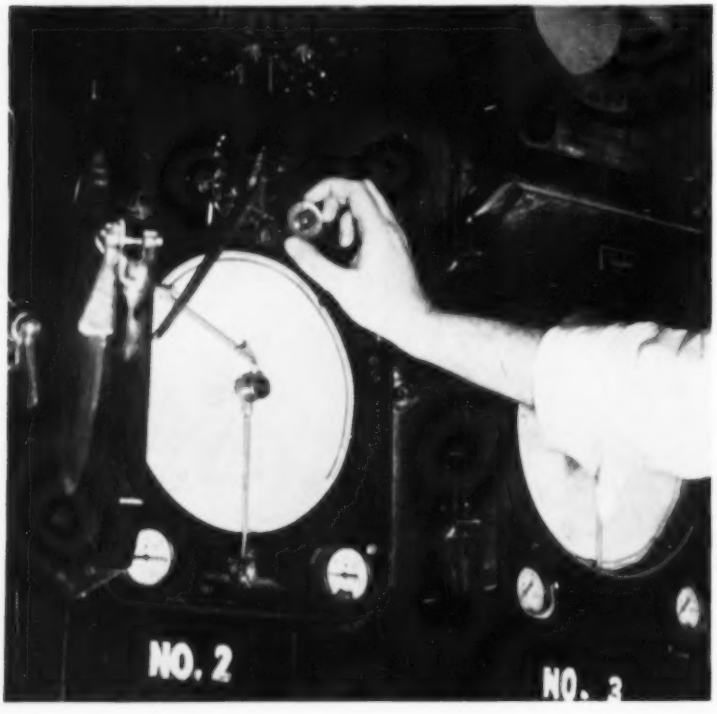
Side-to-center shading of heavy rayon twills and gabardines may often be a result of this property of rayon. Small-scale slashing tests under various tensions have shown that the dyeability can be influenced by tension variation during slashing.

On the drying cylinders, the outside of the warp, being exposed to drier air, may dry faster than the center. This results in an increase of tension along the edges as compared with the center. Sometimes this is so pronounced as to show at the front of the slasher as slightly slack selvages. During drying under this increase in tension, the outer yarns are affected more than the center yarns, and side-to-center shading results when the goods are dyed with some types of dyes.

In hot-air dryers, other patterns may occur, depending on whether or not the air flow is properly designed for uniform across-the-warp drying. For more detailed discussion on this see Bradbury, Journal of the Textile Inst., Vol. 47, p625 (1956).

In addition to the faults already mentioned and their causes, the amount and quality of the size film may vary. The causes and remedies for these variations are listed herewith.

Set up a regular maintenance program for the cooking control instruments. Check them to be certain they are operating properly.



Variations in Cooking. Installation of a recording thermometer will show variations in temperature and cooking time. Length of cooking time is important and should be carefully watched. If mechanically controlled, the controls must be watched . . . . no mechanical apparatus is 100% perfect. No mechanical control should be used that allows the steam to be cut off for any length of time.

The steam inlet valve should be no larger than necessary to bring the size to a boil in the right length of time . . . . a larger valve is difficult to control.

Variations in cooking also come from variations in agitation, rarely mechanically, generally due to variation in the steam flow, which

may give violent agitation one minute and none the next. Boiling should be constant. Occasionally, variations in agitation may come from slippage of belts where individual direct drives are not used.

Variations in Storage. Only enough size should be in the storage kettle to keep one or two hours ahead of the cooking. Uniform sizing can not be expected if size is stored over night.

In the storage kettles, the temperature of starch sizes should not be allowed to go below 195 F, or the gelling temperature of the size may be approached. Temperature control in the size box is still more important, since the adhesiveness and penetration of the size varies greatly over a short range of temperature. A colder size also increases greatly in viscosity.

Starch-based sizes should be kept at temperatures between 204 F and 208 F in the size box, with active bubbling of steam through the size. Actual boiling at the boiling point of the size with an open coil heating system would give too violent agitation.

The bubbling seen at these temperatures is due to steam bubbles that have not had time to transfer all their heat and to condense in the short passage from the steam coil to the top of the size. As the temperature approaches the boiling point, less steam will condense, and this action will become more and more violent. It is generally preferred to keep the temperature in the box at such a point that mild bubbling will occur. Such a temperature is easily controlled visually within narrow limits, and the agitation of the bubbles will prevent scumming over of the size when the slasher is slowed or stopped.

Variation in Size Level in Size Box. If the level is allowed to fall too low, the squeeze rolls will cool off, giving improper sizing, and will not pick up enough size. An automatic level control is very important because pick-up varies to some extent with the level in the size box.

Variation in Sizing Materials. The best remedy for this is to buy from reputable concerns. This may be backed up by laboratory testing to check uniformity. Such checks should not be considered a waste of time simply because no variation is found. Chemical companies who pride themselves on quality, conduct tests on their raw material for years on end, without finding variations in the materials tested.

The tests are continued as a form of insurance. Also, it should be noted that materials which separate readily are difficult to use properly. If the size cooker gets a bucket full of fats one time, and gum the next time, obviously, the mix will suffer from the variation.

Variation in the Formula. The best prevention of variation in formula weights is installation of a system by which all of each material may be weighed out before mixing is commenced. It is a particularly bad habit to weigh and add successively several pails of starch. With all the interruptions in a slasher room, the size mixer is sure to lose count now and then, and add one too few or too many pails.

Also, the volume of finished size should be checked with a measuring device each time it is made up, to be certain the amount of water is correct.

Variation in Starch Conversion. Conversion of starch with enzymes or oxidizing agents is an extremely difficult technical process, subject to much variation. Wherever it is carried out in the mill, the superintendent can definitely expect variation in the size, unless he is willing to hire a competent technical man to control the process. Time and temperature must be very closely controlled, especially with the enzymes. In using enzymes, it is important to stop the action quickly at the proper point

To reduce chances of error in preparing the size mix, especially when several formulas must be prepared for different styles, have the formulas tacked to the wall, or written in a book, as shown in this mill.

by a very rapid rise in temperature to above the lethal temperature.

Oil Stains. The warp sometimes has mineral oil stains, either just oil, or oil and dirt, often containing iron and fine metallic particles from bearings.

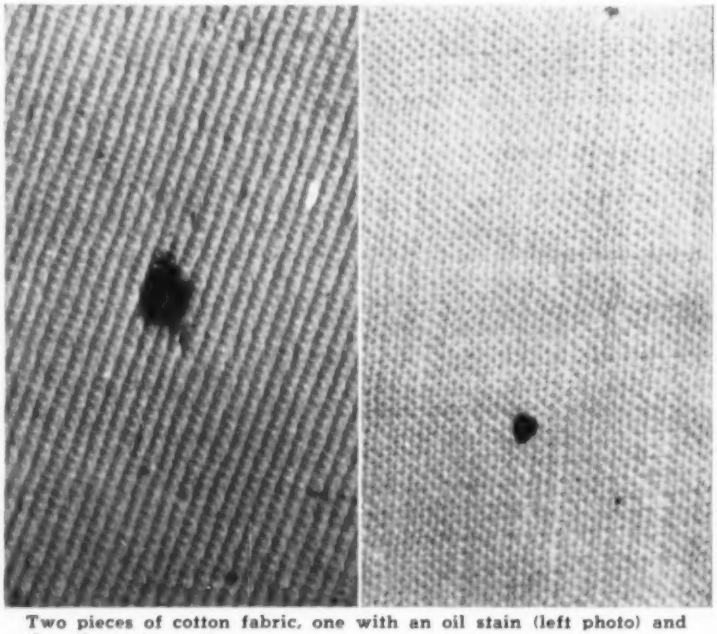
When the finisher finds mineral oil interfering with his processes, he is inclined to think that the sizing is to blame. We have never found this to be the case. In every instance that has come to our notice, where mineral oil stains gave trouble to a finisher, it was due to lubricating oil splashing on the warp or cloth through careless operation.

In most sizes which we have examined, there was always a good deal of animal fat and quite often a considerable amount of vegetable fats, and if a reasonable amount of mineral oil was used, it would be so emulsified or dissolved in the tallow and other fats and so evenly spread over the whole fabric that any agent that would remove the tallow and other saponifiable fats would also remove any reasonable amount of mineral oil.

If lubricating oil splashes from a bearing onto the warp or the cloth, it is not the oil that causes the real trouble, but small metallic particles caused by friction in bearings and carried by the lubricating oil. The oil itself is easily removed, but it is practically impossible to remove these small metallic particles, which form dark spots that are so objectionable. If tallow were used for lubricating, the same difficulty would arise each time a drop of contaminated tallow fell on the cloth.

When oil spots are found on cloth and the cloth is to be dyed, it is best to leave them to be removed in the de-sizing operation because the application of a spot remover results too often in permanent damage, causing the dye to show up dark. For a long time these dark places in the dyed cloth were erroneously blamed on mineral oil; now, however, it is known that when cloth has been rubbed it will cause the dye to show dark, as the cloth will absorb more dye in the abraded spots. This is particularly true of filament yarns.

A typical Norcross viscometer chart. This chart shows a recording for five Sizeometer batches. In each case full scale readings are obtained during the paste stage and then the viscosity rapidly decreases to the end point, which in this instance is approximately 35 chart units. The viscometer may also be used for checking uniformity of viscosity in other types of size preparations.



Two pieces of cotton fabric, one with an oil stain (left photo) and the other a tar spot.

Mineral oil spots are readily detected on cloth by use of ultraviolet light. If much oil is present, the fluorescence of the oil under ultraviolet may be seen in daylight; if only a little, it will be

necessary to examine the goods in a dark room. It should be noted that other materials than mineral oil will also fluoresce, as for example, certain types of mold growth and some types of chemical compounds. A check can be made by the use of a light petroleum solvent, which will dissolve the mineral oil and remove it from the cloth.

Mildew. There are many varieties of mildews, every shade of the rainbow, besides black and brown, being exhibited by the different varieties: yellow, green, pink, purple, gray, red, brown, black.

The red is often mistaken for rust spots. All are due to excessive moisture or exposure of the fiber to dampness for a long period.

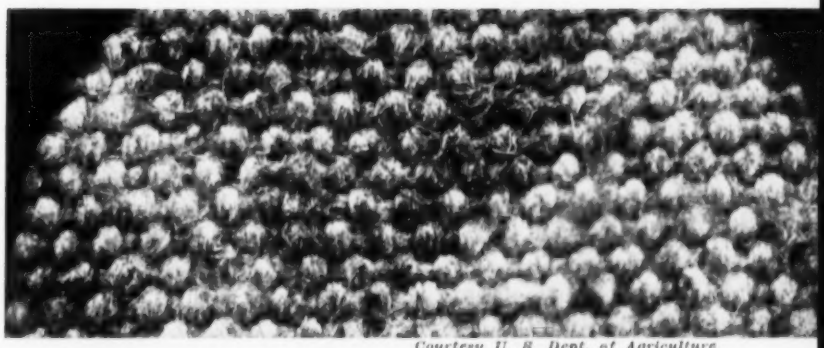
Mildewed cloth generally has a characteristic odor, although when the cloth is dried and exposed to the air this odor may disappear. Chlorine bleach, sodium, or hydrogen peroxide will generally bleach out mildew stains. In this way mildew stains can be differentiated from iron stains. In most cases the mildew is only on the size, and unless it has attacked the fiber it is readily removed.

A good way to determine whether the stain is due to iron or mildew is to incinerate the cloth. Mildew will leave a white or grayish ash, whereas iron will be rusty red. Besides, the well known chemical tests for iron may be used.

Rust Spots. Rust may be due to a number of causes, the most common being rusty pipes or careless handling of the size kettle. If a steel kettle is to remain idle for any length of time, it is good practice to fill it with water containing a pound or two of some form of sodium carbonate, such as soda ash or sal soda. This is drained or washed out before the kettle is used again.

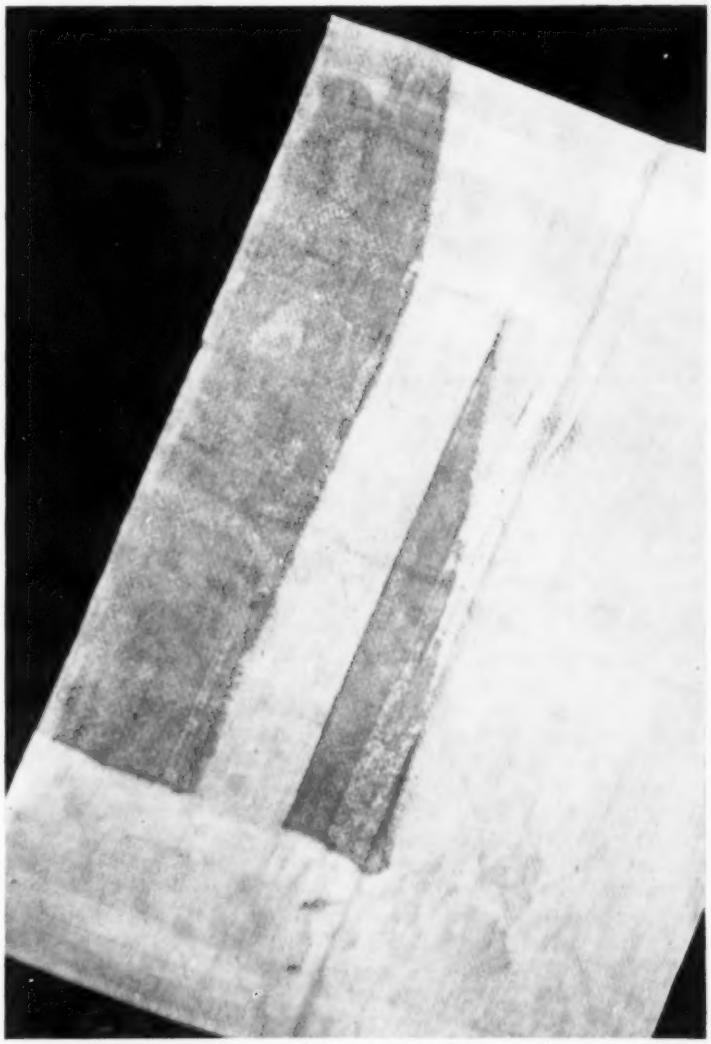
The water pipes should be at least galvanized, and preferably of brass or copper. The metal parts of the loom are likely to rust, especially the reeds and heddles, in a room where humidifiers produce a very damp atmosphere. A size mixture with the proper proportion of good lubricants will have a tendency to protect such metal parts where the sized warps come in contact with the metal.

Excellent stainless metals are now made, and it is but a question of time when all rusting metals will be replaced by these very use-

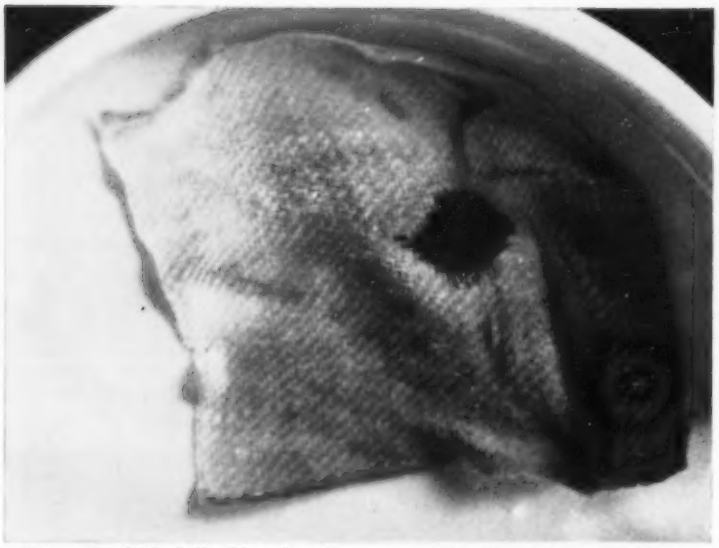


Courtesy U. S. Dept. of Agriculture

Photomicrograph of cotton duck showing mildew stain. (Approximately 10X). Mildew may often be mistaken for other stains, depending on color and extent of attack.



Iron stains on cotton toweling, caused when goods were being bleached and were fed damp into a metal receiving box.



Piece of ashed cloth. Dirty bearing grease dripped on cloth will leave a red ash on incineration of the cloth. Mildew will burn off completely.

ful stainless alloys. There are also several methods of surface treatment of iron to give effective rust-proofing.

Oil from bearings of the loom or rusty shafting often causes iron stains which remain even after the oil is removed.

An iron stain cannot be removed by boiling the cloth with soap or soda. Such a stain will resist the chlorine bleach, which will discolor mildew stains. A test for iron can be made with sulfocyanide of potassium or ferrocyanide of potassium.

Iron stains may be removed by binoxalate of potassium, oxalic acid, sodium bifluoride, or dilute hydrochloric acid followed with copper sulfate. This must be done with great care and the chemicals well washed out, for if they remain in the cloth they are likely to damage the fiber.

Many defects and controversies with the finishers can be avoided by using a size that is scientifically compounded with a view to helping produce ideal weaving conditions and yet not forgetting that the cloth must be bleached, dyed, or processed in one way or another after it is woven; also, that it must be shipped, stored, and often kept on shelves and in store rooms for long periods.

(To be continued in next issue)

Mill men found ACMI's tax seminar most helpful

Staff report

■ The United States textile industry now is paying $78,750,000 annually in federal old age benefit taxes for its employees, a group of industry tax experts were told recently. This includes an annual increase of $8,750,000 brought on by a hike of one-fourth per cent last January 1, according to E. M. Fuller of Greenwood Mills, Inc.

The tax specialists, gathered in Atlanta, Ga., to participate in a tax seminar sponsored by the American Cotton Manufacturers Institute, also were told that the textile industry's payment in state and federal unemployment taxes mounts into the millions of dollars each year. State unemployment taxes paid yearly by the mills is about $35,000,000 and the federal sum is $10,500,000. The contribution of textile employees to their F.O.A.B. interest amounts to $78,500,000 also, it was pointed out.

The Atlanta tax seminar devoted a considerable amount of its time to taxation problems that particularly address themselves to the textile industry. However, general-interest tax subjects also were considered.

A highlight of the meeting was an address by Representative Richard M. Simpson (R-Pa.), a high-ranking member of the House Ways and Means Committee and secretary of the Republican Policy Committee in the House.

Representative Simpson warned that the domestic industry of the United States must have tariff protection if it is to effectively compete with the onslaught of foreign imports. He said this protection, for the textile and other industries, must come from Congress.

The congressman cautioned against taking more power away from Congress and putting it in the executive branch, referring specifically to proposed plans that would give the executive branch control of the welfare of business.

Harold W. Smith of Cone Mills Corp., Greensboro, N. C., chairman of the ACMI Tax Committee, said the tax seminar in all respects was a major success.

He noted that among the five panels working on tax matters at the meeting, considerable interest was demonstrated. However, it was pointed out that the groups working on depreciation, repairs, and changes in accounting methods attracted unusual interest and participation. Mr. Smith said the problem of depreciation in the textile industry is one that is of real concern to everyone in this area, since in many ways it can at times determine whether a mill will have sufficient cash funds to replace worn out equipment.

Other general topics included reviews of fringe benefits for employees, gifts, and the problems involved in the purchase, sale, liquidation or separation of a business.

Do you know why there's a

Seasonal pattern in cotton futures prices?

Abstract*

A LITTLE study shows much about the way prices react under the influence of cotton production and marketing. By the selection of two futures contract months and actually recording prices, the persistence of the seasonal price pattern is shown. Also shown are the tremendous profit potentials and the dangers that hide in seasonal price movements. The profitable and unprofitable sides can be seen more clearly when the forces at work in the seasonal pattern of futures contract prices are understood.

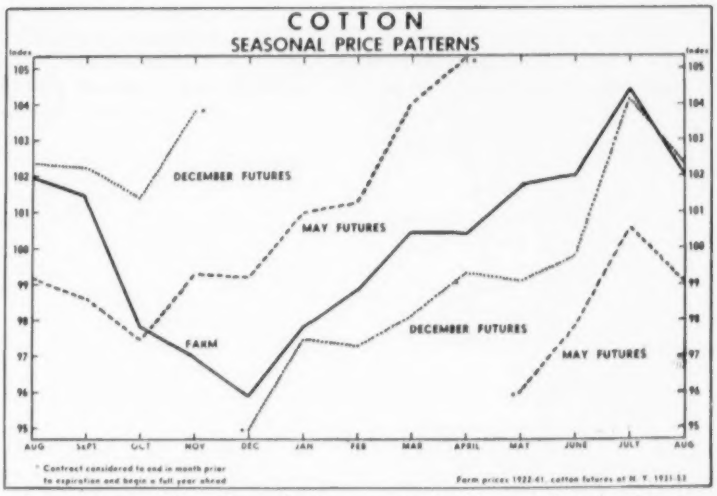
People often say that they can readily understand the seasonal pattern in spot prices. After the harvest rolls into the marketing areas, the weight of supplies is too great for demand and prices are driven lower.

By the spring, stocks are relatively low due to domestic consumption and exports. At that time, prices reflect not only carrying charges from the harvest season but also a premium associated with cotton when supplies are relatively tight.

This seasonal pattern for spot prices is easily understood by most people. But they ask, "Why should December and May futures prices show a persistent upward pattern starting in the spring?" The answer is simple. However, it requires a little imagination to fully understand the explanation.

In May, it is still too early to know much about the new crop. On the production side, these following important questions have as yet no answers: How much acreage is planted? What kind of weather will we have during the season? How much damage will be created by drought, boll weevils, frost, and other calamities?

*From a bulletin published by Merrill Lynch, Pierce, Fenner and Beane.



This chart shows the patterns of price movement for May and December futures and spot cotton. Each seasonal line refers to its own base—there is no significance to the relative positions of the different seasonal lines.

In addition, the prospective domestic demand and the export potential for the new crop are just vague notions in the spring. Without knowledge of these factors or even reasonable guesses, what is the meaning behind any price for these contracts? Before answering this question we must recognize a major feature of the cotton futures markets.

The futures market transfers risks inherent to holding spot supplies to a speculative group. These risks are obvious.

If you own cotton and the price goes down you have lost money. So you hedge to avoid loss. You sell futures and the speculator buys.

Sometimes a merchant sells cotton ahead that he does not own. So he buys futures contracts to protect himself. But who does the selling? Possibly a speculator; possibly a merchant hedging spot cotton; or possibly a mill hedging its inventory.

In general, the first transfer of risk—the trade sells and the speculator buys—is the most common. The vast majority of speculators in cotton invariably are on the long side of the market. This is a solid fact brought forth by government statistics.

Now we can go ahead and answer our question about the meaning of distant futures prices that are established in the spring.

Speculators as a group hope to benefit by price rises, not price declines. Prices must therefore be considered low by this group or they would have no incentive to buy futures. For prices to be considered low is just another way of saying that prices should go higher.

Therefore, when judging prices, speculators must feel (based on whatever limited knowledge exists) that futures prices should rise. If futures contracts actually reflected what people thought prices should be, then there would be no reason for a persistent seasonal pattern in futures prices.

On balance, speculators would average close to the real price. Errors one way would be balanced

by errors in the opposite direction.

But this does not happen. Consequently, there must be more than continual errors of the same nature to account for the seasonal pattern in futures prices.

Hedgers have the same knowledge as the speculators. Then why do they sell futures if they also think futures will rise?

Again the answer is simple and requires even less imagination than it took to understand the speculator's operation. In effect, hedgers view their losses as a necessary part of doing business.

They do not want the price risk and are willing to pay for avoiding it. This does not mean that hedgers deliberately set out to lose money. What happens is that (whatever the supply and demand outlook) hedgers are more willing to sell than speculators are willing to buy.

If hedgers had nothing to gain by selling, they would certainly not be as willing to sell. But there is gain to hedgers in avoiding price risks. This is true whether or not there are premiums or discounts in the distant months.

May Futures. Now you can guess why the month of May is chosen for our study. First, May is a month where there is still a great deal of uncertainty about the new crop months. As uncertainty increases, speculators become less willing to buy. Futures prices decline to reflect the reduced demand. And second, there is a sufficiently active interest in these distant new crop months at this time to provide a broad market.

It is possible that subsequent events will prove speculators wrong. The situation therefore requires constant examination. As a guide, the following summary is useful in weighing subsequent developments.

The minimum loan level for Middling ⅞ inch cotton has been set at 82½% of parity or 28.85¢. Current differences between Middling ⅞ inch cotton and Middling 1 inch (the base of the futures contract) will be about 340 points. This would make the national average loan for Middling 1 inch about 32.25¢.

USDA has announced their export program. The program envisions the sale of 5 million bales abroad during the 1956-57 season. Either cotton will be exported directly from CCC stocks or substitution from "free" stocks will be made for each bale bought from the CCC.

There is a question about the ability of the export market to absorb 5 million bales. But neglecting this question, and assuming that domestic consumption will be 9 million bales, then total disappearance next season will be 14 million bales.

Given normal weather conditions, the acreage allotment of 17.4 million acres (and a rising trend for yields) the crop should approach this same 14 million-bale level.

A 14 million-bale crop would allow minor changes in the total amount of cotton in the carryover at the end of the new crop season. Because exports will directly or indirectly come from CCC stocks, upwards of 5 million bales would have to enter the loan program.

There are two areas that appear to hold the key to price movements next season. First, there is the mechanics of the loan; whether spot demand and loan entries during the harvest period will be strong enough to hold prices.

Second, the mechanics of the substitution provision of the export program may also play a role in price movements. It is possible that "cheap" cotton could find its way to the futures market and weaken contract prices. Other factors could develop later on, but they are not discernible now.

U.S. mills used less textile fiber last year

■ United States mills used 6,485,700,000 pounds of cotton, wool, silk, and man-made fibers in 1956—3 per cent less than the quantity consumed in 1955, according to the March, 1957, issue of "Textile Organon" statistical bulletin of the Textile Economics Bureau.

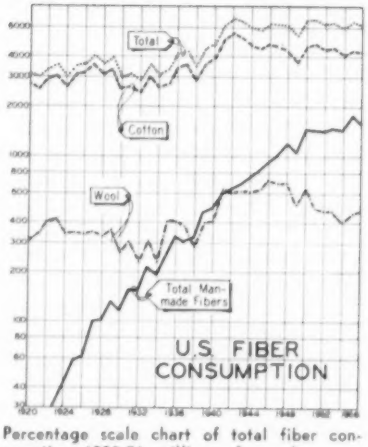
The quantity of cotton reported to have been used was 4,339,100,000 pounds, 1 per cent less than the 1955 total for this fiber. Consumption of wool was said to have been 6 per cent greater in 1956 than in 1955—454,900,000 pounds. The quantity of man-made fiber used in the mills was 1,684,000,000 pounds, 9 per cent less than the 1955 total. Silk consumption totaled 7,700,000 pounds, a gain of 7 per cent.

In an accompanying chart, which was prepared from data presented in the "Organon," United States mill consumption of these fibers for the years 1920 through 1956 is shown.

Note that use of cotton in relation to total fibers consumed has tended generally downward. According to the publication, cotton represented 66.9% of the 1956 total, compared with 72.8 per cent in postwar 1947 and well over 80 per cent in most of the pre-World War II years.

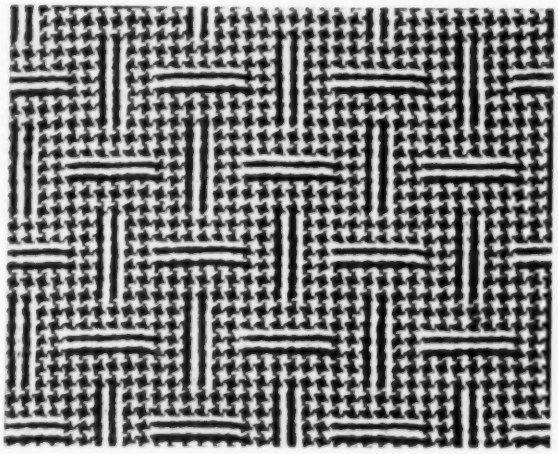
Wool accounted for 7 per cent of the 1956 mill consumption total, the "Organon" observed, compared with 11 per cent in 1947 and between 8 and 10 per cent in the immediate prewar years.

Man-made fibers comprised 26 per cent of the total mill consumption last year, compared with the record 27.8 per cent in 1955, according to the publication.

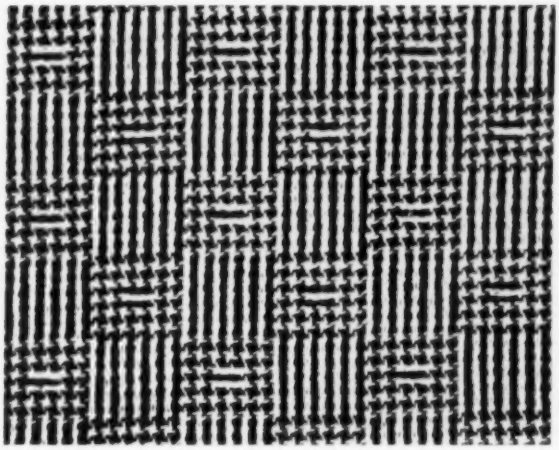


Percentage scale chart of total fiber consumption, 1920-56, millions of pounds.

Here are some novel twill weave fabrics



Sport shirting using warp twill, filling twill, and plain weave to produce an elaborate effect. (About ¾ actual size)



Fabric similar to that at left, using a combination of weaves to produce a checkered effect. (About ¾ actual size)

A mill designer suggests some interesting weaves based on the popular 3 x 1 twill and its variations

by Osbert Hughes
Exclusive

NEXT TO the ordinary plain weave, probably the weave most generally in use for dress goods, suitings, shirtings, and similar fabrics is the twill weave in its various forms. The standard 2 x 1, 2 x 2, and 3 x 1 twills, used alone or in combinations with plain weave, are often to be found in these types of fabrics.

One novel and interesting but rarely used variation, based on the 3 x 1 twill and woven on a dobby box loom, can be made as outlined below.

The warp is drawn in two ends color, two ends white. The filling pattern is two picks color, two picks white. The 3 x 1 twill warp effect is so arranged that the sinkers appear as color filling over the color warp and as white filling over the white warp.

This has the effect of producing vertical lines in the cloth; these vertical lines are alternately solid color and solid white. This is shown in the weave diagram at Fig. 1.

Horizontal lines in the cloth are produced by the use of a 1 x 3 twill, so arranged that the risers will be color warp over the color filling, and white warp over the white filling. The weave diagram at Fig. 2 shows how the horizontal, or filling, lines are obtained.

On both of these diagrams the risers of the color warp are shown as solid squares and the white warp risers as crosses.

Four dobby harnesses are required for the 3 x 1 warp twill, and four harnesses for the 1 x 3 filling twill. Four additional harnesses will be required if some plain weave is also incorporated in the design.

Many attractive patterns can be developed from this limited number of harnesses, while if the dobby capacity permits the use of additional harnesses a great many different patterns can be produced by the use of a suitable drawing-in draft.

Pictured at the top of this page are two such patterns in a sport-shirting fabric, using warp twill, filling twill, and plain weave to produce the elaborate effects shown.

Fig. 1. Variation on a 3 x 1 twill; warp is drawn in two ends colored yarn, two ends white; filling also alternates two ends of color with two ends of white. A stripe effect is produced in the fabric.

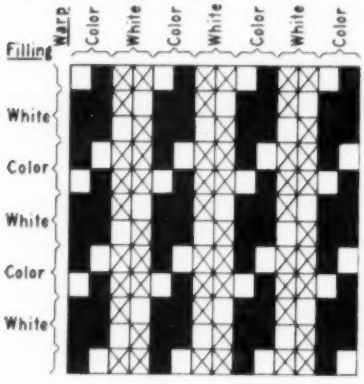
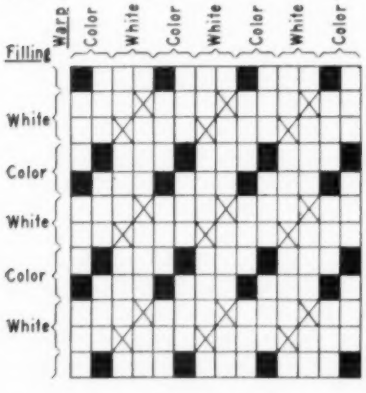


Fig. 2. Horizontal lines are produced by using the same arrangement of warp and filling as in Fig. 1, but with a 1 x 3 twill weave. Risers of color warp are solid squares; x's are white warp risers.



Why so many acrylics?

This question was among those discussed during a man-made fibers symposium at the annual meeting of the Textile Research Institute

Staff report

THE opening day of the 27th annual meeting of Textile Research Institute, held in New York City on March 14-15, was devoted to a symposium on acrylic, vinyl, and dinitrile fibers. Papers were presented on the most recently launched fibers, and speakers reviewed properties and uses of the acrylics and discussed developments which have accounted for their increasing acceptance.

The Institute posed three questions for discussion by the speakers:

1. Why is the chemical industry going in so deeply on so many acrylic type fibers?

2. What are the properties of acrylic fibers that make them so desirable?

3. What were the roles anticipated for acrylics in the textile economy of the future?

ACRILAN. Walter H. Hindle, The Chemstrand Corporation, while discussing these questions from the standpoint of Acrilan, gave two reasons for the chemical industry's increasing penetration into the acrylic fiber field.

The consumer, who is now enjoying a higher standard of living in a rising economy, is not only prepared to pay for better fabric performance but also demands it, Mr. Hindle declared. And the greater reliance on imports of wool to meet the needs of a rising population has, in turn, placed greater emphasis on man-made fibers which become cheaper as their volume acceptance increases. On the other hand, wool is subject to sudden price changes in the event of international crises, he pointed out.

As to the increasing number of acrylic type fibers, Mr. Hindle stated that this was due to a fundamental versatility of acrylics which made possible a variety of fibers in this group.

In commenting on the properties of acrylic fibers that make them so desirable, Mr. Hindle reviewed the aesthetic and functional properties of Acrilan, stressing its dyeing flexibility, which was carefully planned in manufacture of the fiber.

In the early days of Acrilan, Mr. Hindle went on, it was necessary to determine extent of the fiber's penetration into the field without involvement in fiber modifications. But now that a basic fiber has been established, research can be devoted to fiber modifications to meet specific end-use requirements. "Not even the most enthusiastic of manufacturers of acrylic fibers believe that their current product has reached the point of finality for all purposes," he concluded.

Following are some highlights of other papers presented:

DYNEL. Among significant developments cited by John M. Swalm, Jr., Carbide and Carbon Chemicals Co., is the introduction of a new dye carrier for dynel which makes possible excellent union shades for dynel blends in a single bath one-stage dyeing. Called DSP-112, the product is easily emulsified and works by increasing the affinity of dynel for dyes to the level of other natural or synthetic fibers with which it may be blended.

Mr. Swalm also described a new antistatic finish which he said was especially important in providing protection against the buildup of objectionable charges of static electricity in dynel fabrics. Known as "Niatex" Antistatic AG-2, it may be applied by padding fabrics or spraying garments and has outstanding durability to laundering and dry cleaning.

Another development reported by Mr. Swalm was the introduction this year of new Type 77 dynel for carpeting. Of the same chemical composition as regular dynel, carpet dynel is engineered to have special properties of soil resistance, durability, and resiliency closely resembling carpet wool in hand and appearance.

High chemical resistance, flame resistance, unique thermal characteristics, wet stability, warmth, and attractiveness of hand were listed by Mr. Swalm as the chief factors for dynel's application to a wide range of industrial, apparel, and decorative fabrics developed since the fiber was introduced.

ORLON. W. W. Heckert, E. I. du Pont de Nemours & Co., Inc., discussed the research that has resulted in production of a modified Orlon fiber possessing high affinity for the inherently bright basic dyes. This makes possible Orlon's utilization in union- and cross-dyed fabrics in an unlimited shade range on all fabrics in two hours of dyeing time at the boil. The wide range of deniers now available makes possible fabrics of varying texture and construction, he stated.

DARLAN. Richard D. Smith, B. F. Goodrich Chemical Co., predicted that Darlan fiber, the first of the dinitrile class (T. I. for Sept., 1956, p. 115), would fill the need for a special-purpose "prestige" fiber, and presented data to show how it differs markedly from other synthetics.

Darlan was shown to be extremely soft, resilient and stable, and moderately strong and durable. "These outstanding properties, plus wrinkle and shrink resistance, indicate that Darlan's primary use should be in the wool-like apparel fabrics," Mr. Smith said.

The fiber is less resistant than some acrylics to acids and alkalis, but is unaffected by common dry cleaning solvents, moths, and mildew. Dyeing requires high temperatures, but carriers increase the rate of dyeing.

Mr. Smith pointed out that the company's present program is designed to develop specific applications where the Darlan fiber properties can be translated into unique fabrics. He displayed sweaters, hand knitting yarns, deep pile fabrics, women's woolen type coating fabrics, and cotton blend fabrics created from Darlan.

ZEFRAN. The first extended information about Zefran (T.I. for Oct., 1956, p. 186), the Dow Chemical Company's new synthetic textile fiber which the company will produce in commercial quantities next year, was given by Dr. G. W. Stanton. He discussed the unique structure of Zefran, which he characterized as a "nitrile alloy."

Dr. Stanton said that the structure of Zefran permits it to retain 85-90 per cent of its dry properties while wet; that the high moisture regain controls static to some extent, especially at high humidities, and also imparts added comfort when worn next to the skin. The alloy structure contributes to excellent performance in wrinkle recovery under high humidity conditions, as well as exhibiting excellent crease retention during washing, two important requirements for wash-and-wear fabric.

Among the dyes recommended for Zefran, Dr. Stanton listed vat, naphthol, sulfur, neutral premetalized, and direct aftertreated dyes. He indicated that deep shades and clean colors were obtained at temperatures between 150-200 F.

He said that Zefran has been handled on all conventional textile equipment with "very good" results. "The sharp, durable crimp in the fiber," he said, "combined with selected processing finishes permits high volume output on most equipment with good product uniformity." He added that more than one hundred different potential end-uses have been investigated on a development scale, using pilot plant produced Zefran fiber.

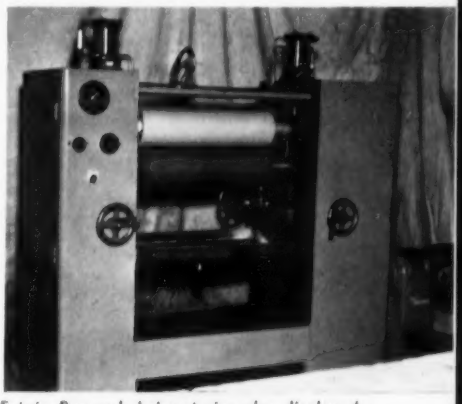
"Certainly, in the textile areas where the fastness properties of vat dyestuffs are required in combination with wrinkle recovery, crease retention, low shrinkage, and general ease-of-care, Zefran has much to offer," he concluded.

VEREL. In discussing the properties of Verel, a modified acrylic fiber introduced last year (T.I. for May, 1956, p. 136), H. W. Coover, Jr., of Tennessee Eastman Company, cited the following properties in common with other acrylic fibers: whiteness, good chemical resistance, excellent moth and mildew resistance, good strength, and excellent weatherability.

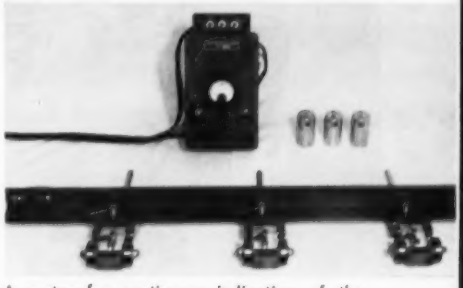
Among the important properties distinguishing it from various of the other acrylic fibers are: soft, kind hand; ease of dyeing, flame resistance; controllable shrinkage, and high moisture regain.

[See also "Suggestions for Dye-

An environmental test chamber was shown at the Textile Research Institute meeting by Fabric Research Laboratories, Inc. It can achieve temperatures from -98 F to +700 F, with a control of ±1° to 2°. It is designed to fit all Instron tensile testing instruments except table models.



Fabric Research Laboratories also displayed a new production Compactor [see TI for May, 1956, pp. 181-182] for yarns, tapes, and narrow width fabrics, available commercially from Riggs & Lombard, Inc.



A meter for continuous indication of the moisture percentage in moving material was exhibited by Hart Moisture Meters. Three roller-type electrodes are usually used; they run on the material where it passes over and is supported by a metallic roll which is part of the production machine where the meter is installed.

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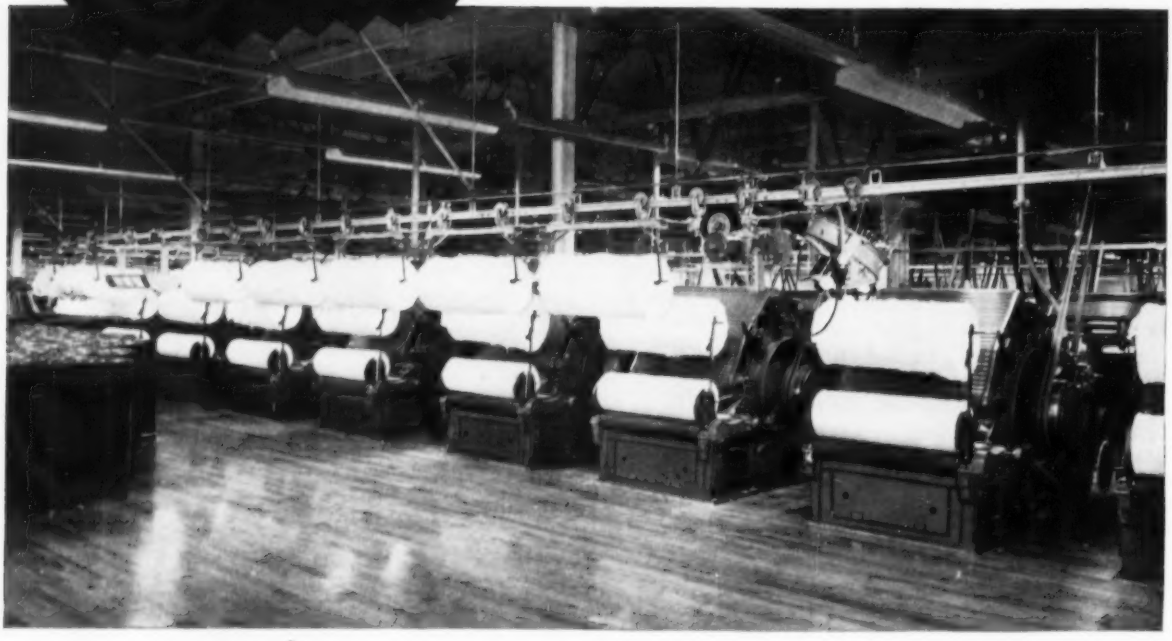

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ing and Finishing Verel," T.I. for Jan., 1957, p. 112.—Eds.]

CRESLAN. American Cyanamid's acrylic fiber, Creslan, (85% acrylonitrile; 15% undisclosed) was discussed by C. W. Bendigo of the company's Fibers Division, who stated that superior dyeability of the fiber was achieved without loss of other important properties, such as softness, high strength, light weight, wrinkle-resistance, etc.

The fiber can be dyed inexpensively, he said, in a wide range of colors with several classes of dyes.

[See T.I. for Feb., 1957, pp. 128 and 197.—Eds.]

TRI PROGRESS. On the second day, Dr. J. H. Dillon, director of the Institute, reviewed progress made there, citing many examples of long-range fundamental studies which have now reached fruition.

Among these was:

(1) Development of a method by Dr. J. H. Wakelin and Dr. H. J. White, Jr., of applying the vibroscope principle to the rapid measurement of moisture content in a single fiber or yarn;

(2) Two methods of separating the starch constituents, amylose and amylopectin, by Prof. E. Pacsu and Albert Bauer, which resulted in the issuance of patents;

(3) The development of permanent flame- and glow-resistant treatments to cotton fabrics by Prof. Pacsu and R. Schwenker, with only small effects on fabric properties;

(4) The translation of the Tee-Pak Corporation's chemical process to induce mildew and rot resistance in cellulosic films to cotton textiles, under the direction of Dr. I. M. Gottlieb.

FOR BETTER FIBERS. An interesting highlight of the day was a paper, "Fiber Forming Materials of the Future," presented by Prof. Herman F. Mark, Polytechnic Institute of Brooklyn. Prof. Mark indicated that new and different monomeric building stones would be available from such fields as petrochemicals, fluorine chemistry, and the like. These monomers, he said, could be built into larger molecules suitable for fibers; however, they would tend to be expensive. In view of this, Prof. Mark stated that progress could be made with materials, in a low price range, already in hand.

Present polymerization processes, he said, produce fibers of varying molecular weight, of varying chain length. The presence of lower and higher molecular weight portions in a fiber are responsible for yellowing, discoloration, bad flow characteristics, and high viscosity. These undesirable properties would be eliminated if a more uniform polymer of more equal chain length could be made.

Among the examples of present polymerization techniques cited by Prof. Mark was that of emulsion polymerization where conditions do not remain constant throughout and thereby produce non-uniform polymer structures. A new concept, now in laboratory stages, to produce more uniform polymers is polymerization by a continual swamping of free radicals—a technique known as intermittent flash polymerization. Also described was a step-by-step polycondensation process which effected better control of molecular weight distribution.

"Breakdowns in mills are now traced to the real cause, rather than blamed on the cotton"

These processes, Prof. Mark indicated, are not far away from commercial reality and are in the latter stages of laboratory development by workers in the field. Also discussed were the block and graft techniques and side-chain crystallization.

COTTON PROCESSING. "Little by little the ghosts of cotton mills are ferreted out as science moves forward," Earl E. Berkeley of Anderson, Clayton & Co. declared in his paper entitled 'Cotton Merchandising Changes to Conform with Modern Mill Requirements.' Breakdowns in mills are now traced to the real cause rather than blamed on the so-called 'character' or lack of it in the cotton," he said.

"In 1949, most difficulties encountered in cotton mills were attributed to the cotton without an attempt to see what might be wrong in the mill," Dr. Berkeley continued. "Today only a small percentage of the difficulties are unrecognizable; and if the cotton quality is known, the mill can, as a rule, be adjusted to make the desired quality of yarn.

"There are still many unsolved problems, however, and there will be so long as we continue to refine methods of processing and finishing, and so long as we continue to improve the old fabrics and construct new and better ones. The modern merchant will try to stay one step ahead of his customer in scientific research and will be ready and willing to meet customer demands so long as it is economically feasible."

Dr. Berkeley cited some findings which resulted from his company's study of the effects of ginning procedures on the fiber and spinning quality of cottons, fiber fineness and its effect on cotton yarn and fabric production, and cotton color. [Note: An abstract of this paper will appear in an early issue of TEXTILE INDUSTRIES.—Eds.]

In other papers presented, Arnold M. Sookne, Harris Research Laboratories, Inc., reviewed shrink-resistant treatments on wool. He stated that while present technical processes are not perfect, many adequate treatments for making shrink-resistant wool are available. He stressed also the importance of consumer appeal and promotion as influential in the future of shrink-resistant wool.

G. D. Mallory, The Goodyear Tire and Rubber Company, reviewed tire cord fibers, discussing the failure of cotton and the acceptance of rayon and nylon. Mr. Mallory stated that "cost per pound per unit of strength and fatigue life for reversing loads at operational temperature rule most fibers out of the tire market."

FACTS

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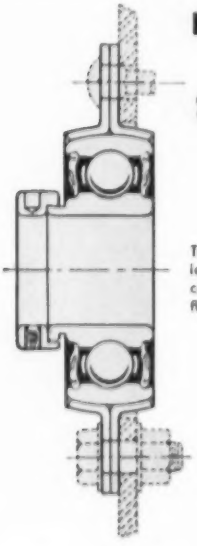

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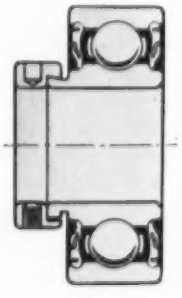
Type AE adapter bearings with spherical outer ring may be used for low cost mountings with stamped steel flanges as illustrated.



Adapter bearings are also made with cylindrical outer rings for straight housings.

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How one mill prevents rust spots on cloth

One of the two permanent magnetic Ferrotraps installed between the mixing kettles and homogenizers in the liquid starch lines.

Operative wipes rust particles off the magnetic tubes of the drawer-type grate magnet which sifts the dry starch as it comes to the dry starch weight lorry.

■ A LARGE southern mill, producing sized warp yarn for weaving, has found that a problem presented by the occasional presence of minute rust particles concealed in the liquid size mixture, or in the dry starch, can be overcome—and the elements of human error largely removed—by the use of permanent magnetic separators.

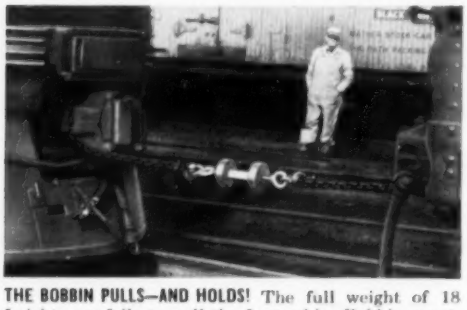
Two Eriez Model B Ferrotraps (pipeline traps) are utilized in the liquid starch lines between the mixing kettles and the homogenizers, and one Eriez Model D-1 drawer-type grate magnet sifts the dry starch as it comes to the dry starch weight lorry.

As reported by the plant engineer, the units are removing small rust particles from the starch, protecting the homogenizers and rubber slasher rolls from damage, and safeguarding the firm's customer goodwill by preventing rust spots

LESTERSHIRE BOBBIN PULLS 357 TONS DEAD WEIGHT—Something new in railroading—and textiles—took place recently at the Wilmington, Del. yards of the B & O Railroad. In a unique test, designed to dramatize bobbin strength under severe tension, a Lestershire Bobbin by National acted as "draw-bar" for 18 freight cars with a total dead weight of 736,700 pounds.

A NEW KIND OF "DRAW-BAR" FOR RAILROADS—Suspended between a three-unit diesel and a 357-ton string of cars, the Lestershire Bobbin awaits its supreme test. No abuse received in service will ever equal the punishment it must take in just a few minutes.

BEGINNING THE SUCCESSFUL TEST—Here, National engineers shackle bobbin into test harness. Bobbin chosen was a Precision Bobbin featuring Lestershire patented anchor screw construction. Heads are made of Vulcanized Fibre, barrel is hard Northern Maple.



THE BOBBIN PULLS—AND HOLDS! The full weight of 18 freight cars fails to pull the Lestershire Bobbin apart. *Reasons:* (1) Unsurpassed materials—hard, dense Vulcanized Fibre combined with hard Northern Maple. (2) Unmatched experience in precision bobbin design and construction.

Send for new, authoritative Bobbin Handbook. The only manual of its kind in the industry. 12 pages of essential data on bobbins—how to choose, materials of construction, types and uses. Yours without obligation. Just write Department W-5.

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STANDARD AND SPECIAL BOBBINS FOR EVERY USE. National makes scores of standard bobbin types. And wherever synthetic yarns, larger "packages," and higher rotating speeds demand improved designs, National develops them. Here is your source of bobbins for almost any spindle, speed or yarn in use today.

from developing in finished cloth.

The unit installed in the liquid starch lines (see accompanying illustration) consists essentially of a stainless steel casing within which multiple stainless steel rods or "fingers" containing the nonelec tric magnetic elements are so positioned that the flow of liquid is forced to curve and recurve around and through them, thereby more readily exposing any bits of rust particles or other iron contamination to the ultra-powerful magnetic fields emanating from each of the rods. Accumulations of metal, adhering firmly to the rods, are periodically removed by simply withdrawing the one-piece magnetic assembly from its casing and wiping the rods clean.

A similar function is performed at this mill by the grate magnet handling dry starch. This unit consists of a series of parallel stainless steel tubes, each containing magnetic elements and mounted one inch apart in a rugged steel frame. This magnetic assembly is protected by a removable steel grill which also serves to slow the material and direct it in thin, multiple flows over the magnetic tubes. To remove metal accumulations, the drawer-type frame is slid back, the grill lifted off, and the rods wiped clean (see illustration).

Installation of these units in existing equipment is very simply and quickly effected. No wiring is needed, nor is any maintenance required other than periodic removal of iron fines or tramp metal. The magnetic "pull" of the elements is virtually inexhaustible and is guaranteed indefinitely by the manufacturers.

Says fabric finish provides durable protection from body odor

■ Durable protection against body odor formation on fabric is offered by "Cyana" Purifying Agent, Dr. J. M. Salsbury, manager of textile resin research, American Cyanamid Co., reported on March 6, 1957, to members of the American Association for Textile Technology, Inc.

"Garments without body odor will increase the wearer's social acceptability and will increase the time the garment can be worn before requiring washing," Dr. Salsbury said. Thus, the wash load for housewives will be lessened and useful life of garments will be increased, he pointed out.

All fabrics which come in contact with the body should be treated with the purifying finish, Dr. Salsbury declared. Garments such as shorts, undershirts, shirts, pants, pajamas, and lingerie, as well as bed sheets, pillow cases, and towels, are definitely benefited by such a treatment. All items which children contact should be treated to reduce their bacterial level; therefore, toys, bedspreads, covers, diapers, and even carpets should be given a purifying finish.

Explaining that by greatly reducing bacterial growth, bacterial decomposition of perspiration is prevented, thus preventing body odor, Dr. Salsbury said that Cyana purifying finish is designed to do this.

Described as an aqueous solution unaffected by freezing or storage at 120 F, this purifying agent is said to be readily dilutable with water and compatible with most thermoplastic latices and cationic and non-ionic products. It is non-irritating and nontoxic to the human skin.

Here are some other facts about the purifying agent which Dr. Salsbury gave:

1. No special equipment is required to apply it.

2. The finish does not change the hand of treated fabrics.

3. Heat, light, and abrasive action do not destroy the activity of fabric treated with it.

4. Treated fabric will not require a bleach when washed with modern detergents.

5. Cotton, viscose, and viscose-acetate blends treated with this agent retain their activity through 25 washes; Dacron and cotton blend fabrics, 10 to 25 washes; cotton fabrics, 50 washes. By using a binder with the purifying agent, excellent durability of the finish can be obtained on fabrics of wool and the hydrophobic fibers.

6. It is extremely durable to dry cleaning.

Cited as proof that Cyana Purifying Agent can actually control body odor was the following:

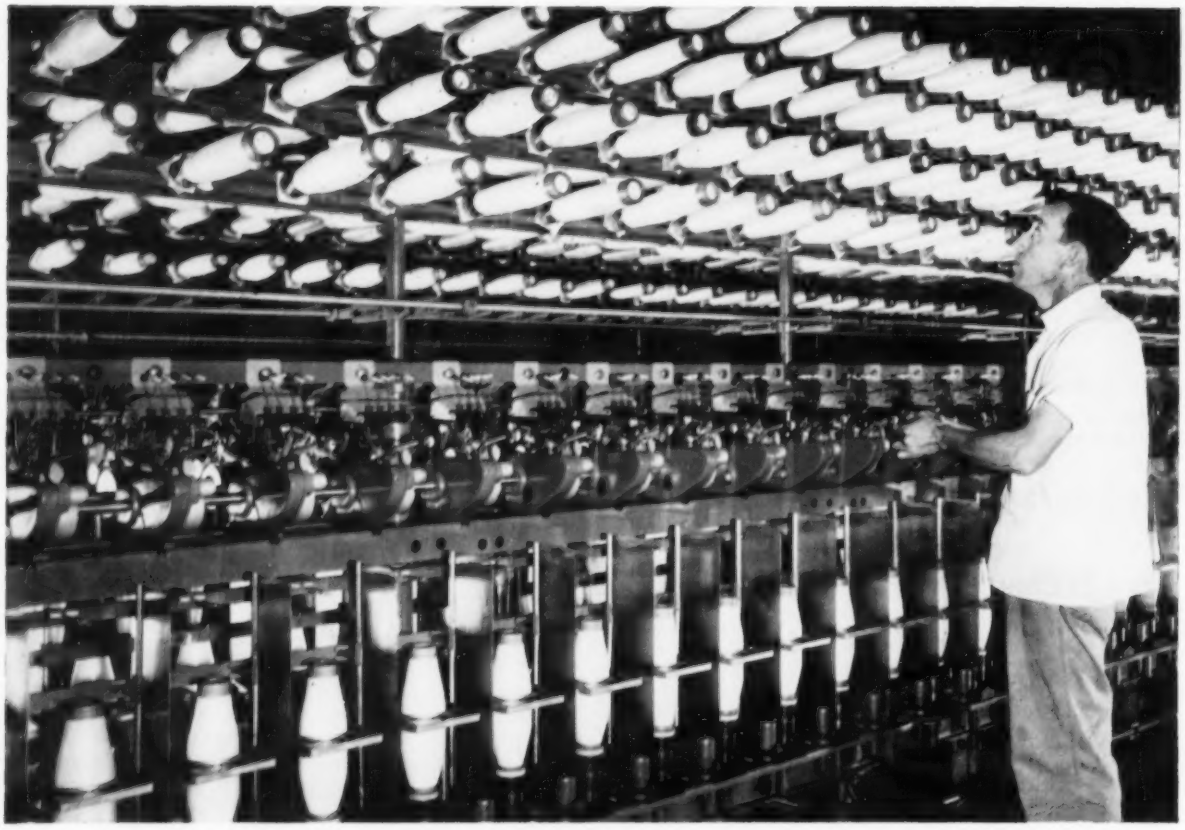
"A carefully controlled experiment was performed through the department of dermatology of a leading eastern medical college. We asked that the severest possible test be designed to measure the effectiveness of our purifying agent in controlling body odor in fabric. Over 250 active men were screened to pick eight men who were real stinkers.

"The armpits of these men were washed three or four times with soap and water until all traces of odor disappeared. Treated fabric was taped in one armpit and an untreated fabric was taped in the other armpit as a control.

"The men wore these fabrics for 48 hours. At the end of this time each armpit was given the nose test and rated.

"No body odor was found in the armpit containing the treated fabric before washing in six out of eight men, and others were socially acceptable. Excellent control of body odor was retained through 10 and 25 washings in an automatic home washing machine. The odor level was judged at least socially acceptable in every case."

Cyana has been found to retard the growth of both gram-positive and gram-negative bacteria on all fabrics tested—hydrophilic, hydrophobic, and blends of both. Either of these bacteria can cause body odor.



Leesona Model 10 Ring Twisters processing glass yarn at the Seguin, Texas, plant of the Coast Manufacturing and Supply Company. The firm produces Trevarno Glass Fabrics.

Producers of TREVARNO GLASS FABRICS chose Leesona Model 10 Ring Twisters

Years of research and planning went into the decision of Coast Manufacturing and Supply Company to enter the textile industry as processors and weavers of glass cloth. The 85-year-old Livermore, California, firm, with a long history in the manufacturing and distribution of safety fuse for the mining and construction industries, made the carefully-planned move into textiles in 1947.

Ralph E. Merritt, president of the firm, reports:

"After evaluating other types of twisting equipment, Coast Manufacturing and Supply Company decided upon the Leesona Model 10 Ring Twister."

Model 10's are used exclusively in Coast Manufacturing's 800-spindle twister installation in Seguin, Texas, producing a double-tapered package which can be used directly for filling and warping operations without rewinding.

Versatile Leesona Model 10's can also produce a tapered top or straight wind package. They are ideal for processing not only glass yarn, but rayon, spun rayon, nylon, silk, wool, worsted, cotton and combination yarns, and the new bulk and stretch yarns as well.

Make Your Own Evaluation

See how flexible Leesona Model 10 Ring Twisters can improve your own twisting operations. See your Universal representative or write direct.

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Winding and Twisting Machinery for Natural and Synthetic Yarns

Can you use an outside laboratory?

How a consulting chemist can help a mill test purchased materials

by Philip Sadtler
Samuel P. Sadtler & Son
Philadelphia, Pa.
Exclusive

EXPERIENCE has shown that many textile mills do not have adequately trained chemists whose scope is large enough to cover all of the products, processes, and materials which they purchase. So-called chemists are more frequently trained as textile engineers rather than as chemists.

Dyes are generally tested by a comparison dyeing while they could be tested for chemical identity and adulterants. Knowing the chemical identity of a dye, its behavior can be predicted and it may be purchased as a chemical rather than as a specialty.

Chemicals are used in most mills to soften the water and therefore avoid contaminations, spots, etc., of the fabric. The chemicals are generally purchased according to the name — sodium chloride, soda ash, lime, etc. — with the manufacturer's specification accepted.

Lubricants are used for all machinery. Most lubricants are accepted upon refiner's specification. They could be tested for the viscosity, flash and lubricating properties, and therefore obtain an oil to meet the plant's special requirements, increasing the life of the machinery.

Scouring agents, cleaning agents, detergents, etc., are bought in large quantities. Most tests of these materials are made on a trial and error basis, although soaps are tested for the true soap content, the titer, iodine value, saponification number, neutralization number, and pH.

The newer detergents are tested for water, builder, and actual surface active agent. The surface active agent may be identified by infrared spectroscopy, telling the true type and nature. The builder is identified and the amounts determined of sodium carbonate and different phosphates and other alkalis.

Finishing agents are generally sold by trade names and are not always identified. The larger mills, however, are learning that a proper identification of a specialty product will generally save money, since that product may then be bought from the prime supplier and blended by the mill. Also, in case of change in sources the product may be purchased from other sources by specification.

It is also possible that the same chemical will be sold as a finishing agent by several suppliers; therefore it is of value to know the exact nature of the many resinous finishes sold by specialty houses. Rarely are they made by that specialty house, and therefore a complete identification of the material is a great source of saving to the mill. Starches are generally tested by gel strength or by viscosity. Enzymes used to remove starches are tested by the amount of enzyme required to convert a weighed amount of starch into a soluble product. They are also tested for the optimum temperature at which the enzyme is active.

Resins are best identified by the infrared spectrophotometer, and are analyzed by a great host of quantitative methods. The viscosity of a known solution is a relative indication of the molecular weight, and a change in the molecular weight of a resinous material will affect its behavior.

The advantages of a thorough testing program to the mill are not always recognized, but the purchasing of specialty items can be a large source of extravagance. The purchasing of the desired materials by specification will enable the company to purchase at an absolute minimum of expenditure. It will also enable the mill to purchase with reasonable reproducability so that the mill makes a constant product.

The processing of dyes according to a specification which would include the amount of the active dye will usually enable the mill to match the color in a uniform way and also enable them to purchase the most dye with the least amount of money. The cutting of dyes by salt to get a lower price is usually an added expense. However, there are some dye manufacturers who, as they increase the concentration of the dye, increase the price at a more rapid rate. Therefore a diluted dye may be cheaper.

Printing glass *(from page 133)*

one of the chief ones Velveray had to solve was that of fly adhering to the print roller, which caused printing defects and slowed down production. This problem was finally brought under control through the installation of unique suction devices located at strategic points on the printing machine.

As a result, speeds of printing from 20-40 yards per minute are now possible.

The processing that follows printing consists merely of a drying and curing operation (350 F for 1½-3 minutes) to bind the resin-pigment to the glass. The goods are then batched, carefully inspected, and tubed for shipment.

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Now you can eliminate constant and costly maintenance of blanket-covered and yarn-wound slasher rolls. The seamless, graduated hardness rubber covering, specially developed for slasher use by Saco-Lowell and U. S. Rubber Co., permits the Multi-Duro Roll to operate satisfactorily for at least two years without buffing.

In addition, the Saco-Lowell Multi-Duro Slasher Roll helps produce superior quality warps because:

- the variable-hardness construction of the rubber permits a constant, even size application.
- A well rounded layer of size is applied on each end individually — shedding in the weave room is thereby minimized.
- Roll is made of special rubber, which, given reasonable care when not in use, will not harden, chip or form blisters at any time.
- There is no lateral seam to cause size roll marks on sunken places across the yarn sheet.
- Rebuffing is not required for at least two years if the roll is given normal use and care.

The Saco-Lowell Multi-Duro Slasher Roll is unquestionably the best slasher finisher roll available today. It is not a conventional roll — do not be misled into accepting a substitute. The Multi-Duro Roll leads to quality slashing and more efficient weaving. Continued evidence that it "Pays to Use Genuine Saco-Lowell Repair Parts".

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Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editors "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

Tight picks—a question for glass weavers

EDITOR TEXTILE INDUSTRIES:

Can you furnish any information on ways to eliminate tight picks in satin weave Fiberglas cloth?

CONTRIBUTOR NO. 8983

(The above question has been referred to several experts on fiber glass weaving. Two replies are printed below.—The Editors)

EDITOR TEXTILE INDUSTRIES:

The problem of tight picks on fiber glass is indeed a vexing one, for once it is eliminated, it requires constant watching to keep it down. Since we are running a fabric style of rather narrow width on a loom designed for much wider cloth, we naturally find it more than usually difficult to control the tight picks. However, we usually have less than a half-dozen tight ones in our cuts which average about 125 yds in length. These usually are caused by an occasional bad bunch or a poorly wound package. Our complete approach to the problem starts with the loom motions we can best reach while the warp is out.

Before a new warp is tied in we check all motions for anything which will cause a harsh pick or a loose shed. Pick shaft boxes are checked for wear, and if wear is excessive we replace the boxes on the spot. Pick points get the same treatment. If there is wear on the crank shaft or main shaft gears, we turn the gears a quarter-turn or replace them—whichever is necessary to give us the required results. It is impossible to get an "easy" pick if these gears are worn "on the pick."

Since it is desirable to run with the least possible spring on the center fork, we check this mechanism for wear while the warp is out. Worn parts are replaced. We use a bent fork prong which holds the filling better on light tension. We also use the least possible shuttle tension.

We next check the dobby crank arm knuckles, joints, and knives. Any play here can leave a loose shed and help cause a tight pick. We then go over the magazine and cutter parts and change any worn studs we find.

If worn, the transfer dog and the transfer latch are replaced. Cutter blades and parts on the trip

NEW KINK CONTEST!

$100 will be awarded the winner

Send your entry now! This contest ends August 15, 1957

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

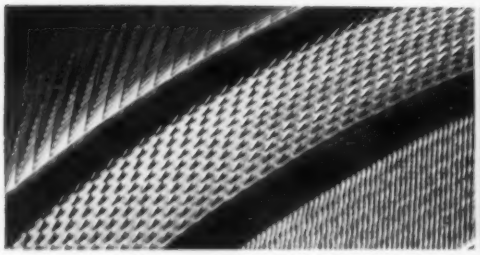
► All contributions must be postmarked not later than midnight, August 15, 1957.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to: The Editors TEXTILE INDUSTRIES, 806 Peachtree St., N. E. Atlanta 8, Georgia.



CARDER'S CORNER by Ashworth

CARDERS!! The purpose of this page is to serve as an open forum each month. If you have problems which you would like to throw open for discussion or if you have further comments on problems already presented, write to CARDER'S CORNER, care of Textile Industries, 806 Peachtree St., N. E., Atlanta 8, Ga.

Volume I, Number 5

CLOTHING "JAMMING"

"Not too long ago we developed considerable trouble in our card room. The clothing was jamming and getting mashed." Mill #5

To try to remedy the trouble throughout the entire card room instead of on the cards as they became damaged, we got all the help we could from other mill men and salesmen. Following is our analysis or rather the analysis we developed with all of the help that we were fortunate to get:

Trouble . . . . . Jamming

1. Heavy places in lap, particularly at the ends.
2. Allowing clothing to load.
3. Chokes going into cylinder.
4. Failure to clean out undercard, beyond lickerin mote box.

With the above in mind, we set out to correct as much as we could. Here is what we did:

1. Starting in the picker room, we found that the pickers were making laps that had heavy and light places in them; the heavy places were especially noticeable at the ends of the laps. This was corrected; the pickers produced a more even lap when we had reworked them.
2. Our continuous strippers were set too deeply and some of them were running too slowly. We set them to a more shallow depth in the wire. An inspection showed that the belts on the continuous strippers were slipping so that we did not get the speed we expected; tightening them corrected this. In addition, we speeded them up to overrun the surface speed of the cylinder.
3. The continuous strippers were set improperly at the back plates; we reset them so there was less chance for an accumulation of stock being turned loose to cause a choke. (Incidentally, the setting at the back plates is very important).
4. Our operatives were laying-in and splicing the laps in too big a hurry; they were trained to splice the laps so there were no thick places to jam.
5. Our grinders were grinding too heavy; they were taught to grind lightly.
6. Our feed rolls were worn slick. These were refluted so that they would feed the stock evenly instead of in lumps and cause a jam.
7. We backed off on the settings on our top flats.
8. We cleaned out undercard, front to back, not just under the lickerin.

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Ashworth PIONEERS IN CARD CLOTHING

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are checked likewise, and if worn, are replaced. We use a filling catcher near the magazine to hold up the filling for the temple cutter. If the temple cutter stop is worn, it is built up and set to run with new blades.

We find it best to start new warps with a new shuttle, and to re-leather the binders (back and front) on both ends of the lay. We run with light spring tension on our protector motion.

We run our looms at 150 ppm, set our sweep at 6½", and pick 2½" from the fell of the cloth. We find that these settings give us a light and "gentle" pick. We box our shuttles with the binders as far front as possible, and pay strict attention to shuttle checks. We don't check the shuttles with our boxes.

The transfer hammer is set to give as free and as easy a transfer as possible. The feeler is set toward the front of the feeler slot to help transfer quicker in case of shuttle rebound or the presence of a long bunch on the quill. We wind our quills hard and almost straight with a minimum bunch. As it only takes a small nick on a quill to cause a tight pick, we check and polish our quills routinely.

The above settings and conditions must be maintained—the sweep is most important.

Cloth on satin glass cannot be pulled back for examination, so constant inspection is necessary. Weavers must be taught to stop looms at the first sign of a tight pick which will show at first just a few inches in from the edge. I have tried weaving the fabric on some looms with the face up to enable the weaver to see tight picks easier. This requires a bar to be placed across the cloth from temple to temple to keep the cloth from rising up. This problem is posed by there being only one shed down on the race plate. This system is of course hard on the loom, and I am not yet sure it is the best way. To give a better cover, we cross our harnesses ½" from the fell of the cloth.

While the procedure outlined above may seem to require a great amount of work, I have found it all to be necessary if grief is to be avoided in weaving satin glass fabrics.

CONTRIBUTOR NO. 8984

EDITOR TEXTILE INDUSTRIES:

Although CONTRIBUTOR NO. 8983 did not mention what type of yarn he is weaving and the type of loom on which he is weaving the material, there are a number of precautions to prevent tight picks in any event.

We are currently operating about 50 looms on Fiberglas of different counts and specifications.

Our experience has shown that 75/2 would require different handling as compared to, say, 60/2.

It is essential to keep the shuttle lined up; that is, the quill should be lined up properly in the shuttle, regardless of whether the loom is a C&K S-6 or a Draper. A slight amount of misalignment can cause tight picks.

Quilling must be done carefully, and it is desirable to make the quill slightly smaller than usual to prevent binding in the shuttle. Use a heavy fur in the shuttle and replace the fur often.

Of course, regular loom settings must be watched carefully. There are numerous sources of tight picks which may depend upon other loom settings and adjustments. We have found that the same loom settings for medium heavy warps of viscose or other filament yarns are satisfactory for weaving Fiberglas.

Crossing the harnesses a little earlier than usual helps in weaving Fiberglas. For example, if harnesses usually cross ¼" after front center, they should be changed to cross at front center.

CONTRIBUTOR NO. 8985

Converting pick system aids gore stitching

EDITOR TEXTILE INDUSTRIES:

A new and different system for making the heel and toe on SCP knitting machines has been utilized in several mills running these machines, and gratifying results have been obtained.

The gore produced in the heel and toe by using the new method is smoother, flatter, and more easily looped than the conventional sock. Also the ease of conversion is gratifying in that labor cost is kept at a minimum. There is little parts cost, since the same parts which are already on the machine are used again.

The conventional method is good and will operate perfectly and practically indefinitely, provided the machine is kept adjusted and tight. However, yarn construction must be kept equal or almost equal in count on both sides of the knitting cylinder. If these conditions are maintained, there will be little or no need for changing your machines unless a smoother gore is desired.

However, there are conditions and circumstances which will render the conventional method less desirable, considering the results obtained with the newer method. These conditions are brought about by the trend in knitting dissimilar yarns, aging, wear on the machines, and to difficulties in machine adjustment and flexibility.

A comparison of the two methods follows:

With the conventional method, upon entering the heel or toe sections of the sock, the left front and rear stitch cams are pulled away from the cylinder and are out of action during the knitting of the heel and toe. Widening picks are drawn out of action, and narrowing picks are lowered into action. The narrowing picks engage and lift one needle at a time on each reciprocation throughout the entire

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Specific mill problems are discussed in general staff meetings with other contact associates having combined experience of more than 120 years.

And behind this group are some 40 other textile engineers, chemists and technicians who serve as "know" men for Keever starches. Count on them to help you.

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heel and toe. In the middle of the heel and toe or at the turn-back link on the chain, the widening picks are lifted into action, and two needles are lowered on each reciprocation.

Thus, a gain of one needle over the narrowing picks (which remain in action) is established. Only the long butt needles are engaged by the picks throughout the heel and toe, this being accomplished by the needle raise cams which engage the long needles but allow the short butt needles to pass behind and under the stitch cam.

Here are some disadvantages of the conventional system:

1. Widening picks sometimes pull only one needle down.
2. Narrowing picks sometimes pick one of the lowered needles back up.
3. These malfunctions can cause:
   a. Needle loading.
   b. Needle and/or sinker breakage.
   c. Cylinder wall damage or breakage.
4. Little flexibility in adjustment.
5. Limits fashion adjustment affecting sizing of sock.
6. Adjusting of picks, especially widening picks, often consumes excessive time.

With the new method, upon entering the heel and toe sections of the sock, the left front and rear stitch cams are pulled away from the cylinder and are out of action during the knitting of the heel and toe. Widening picks are drawn out of action, and the narrowing picks are lowered into action. The narrowing picks engage and lift one needle at a time on each reciprocation through one-half of the heel and toe or until the evener dog moves the main drum and pulls the narrowing picks up and away from the needle butt level. Cams will have to be moved forward on the drum wheel which controls the narrowing picks to accomplish this.

Simultaneously, the widening picks which have been ground to lower only one needle at a time, will be raised into action. Through the last half of the heel and toe, no needles are raised, and only one needle at a time is lowered. Only long butt needles are engaged by the picks and droppers.

This method eliminates the float stitching caused by the conventional method and when looped a "bitter end" is left at the end of the looping chain. Other advantages are:

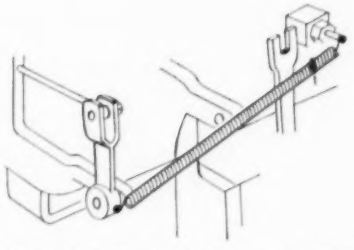
1. Less needle loading.
2. Less needle and sinker breakage.
3. Reduces possibility of cylinder wall damage or breakage.
4. Gives greater range for adjustment.
5. More easily repaired and adjusted.

CONTRIBUTOR No. 8971

Spring reduces W-3 feeler wear

EDITOR TEXTILE INDUSTRIES:

We were having trouble with our W-3 feelers indicating before the yarn had run down to the bunch. I found that thi condition was causing excessive wear, sideways, on our feelers. While searching for a means of correcting that condition I hit upon the idea of installing a spring to hold as is illustrated in the drawing. I hooked one end to the in-and-out adjustment screw, and hooked the other end to the bottom of the plunger indicator rod arm.



The spring in no way hampers the feeler and indicator rod and I get much more uniform bobbin waste. The spring has proved that a feeler can be made to wear at least twice as long.

CONTRIBUTOR No. 8976

Soak box top leather

EDITOR TEXTILE INDUSTRIES:

When putting new leather on XD Draper looms, fixers will have to take the top off and put new leather on at the work bench. It is hard even here to make a good tight fit. When the box top is put back on it has to be lined up.

We save ourselves this time and effort by having our leather cut and holes put in it, and then soaking the leather in real hot water for 5 minutes. It will then stretch considerably and can be put on at the loom. When it dries it goes back to its original size, and makes a much better fit than can be obtained by removing the top and putting the leather on dry. You also save disturbing the box top so there is no need to reline the box.

CONTRIBUTOR No. 8978

Knitter take-up lazy?

EDITOR TEXTILE INDUSTRIES:

When the gears on the knitting machine take-up are not working properly, the take-up will start hanging—sometimes not starting to roll until it hits the frame of the machine.

Do not cut the take-up belt until you have examined the teeth of the gears. If they are dirty, blow them out with compressed air until all the impacted foreign matter is removed. Sometimes such matter hardens until it is very difficult to remove; but it must be removed if the gears are to operate as they should.

Once the gears are clean, start the machine and see how the take-up performs. If it still doesn't work as it should, then look to the belt.

CONTRIBUTOR No. 8944

Reduce knitter troubles

EDITOR TEXTILE INDUSTRIES:

The little things in knitting often lead to big troubles; and one such little thing is the way in which the knitting yarns are threaded through the eyelets. These little holes are provided to act as guides for the yarn and are prepared to receive yarns of several diameters.

Often trouble is invited by the operator who neglects to thread the yarn through the hole which approximates the yarn diameter most closely. By observing the simple precaution of using the proper eyelet, one can avoid numerous press-offs, holes, and broken needles.

By spending a little more time threading up a knitter, one can save much bother later.

CONTRIBUTOR No. 8955

Enlarge knitter creel

EDITOR TEXTILE INDUSTRIES:

To solve the problem of waste yarn at the end of a cone, convert the present knitting machine creels to magazine creels. This can be done on Scott and Williams, Wildman, and possibly other makes.

Make another cone stand with arms shorter than the existing ones. Position the holders on the new creel so that the cone will be between (and above) the original cone positions.

Bend the original holders slightly toward the first eyes to be threaded. This prevents pull-down on the yarns. Now it is possible to tie the tail of one cone to the main yarn of the other cone while the machine is running. As the yarn runs off one cone it begins to pull off the cone it is tailed to.

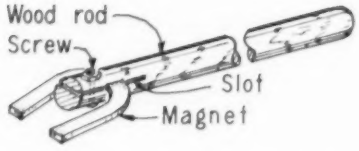
CONTRIBUTOR No. 8906

Magnet retrieves dropped metal parts

EDITOR TEXTILE INDUSTRIES:

After a warp is drawn in through the harness, the drop-wires are placed on the warp ends, usually by special operatives. This job is sometimes performed at the drawing-in rack but also is frequently done after the warp has been placed in the loom. Inevitably a number of drop-wires will fall to the floor.

The recovery of these fallen drop-wires will eliminate the expense of their loss as well as prevent possible damage to machinery if the sweeper waste is reworked. A small permanent-type horseshoe magnet attached to the



end of an old broom handle makes a handy device for recovering not only fallen drop-wires, but nuts, bolts, washers, and any other small iron and steel objects from underneath looms and other machines. This device is very simple to make and makes it quite easy to retrieve such objects from the floor.

CONTRIBUTOR No. 8982

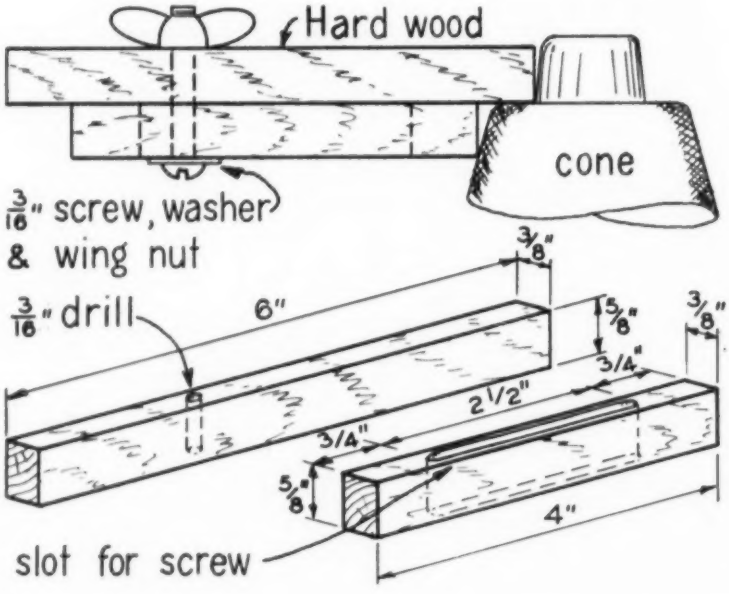
Gauge for setting cone sizes

EDITOR TEXTILE INDUSTRIES:

Much time was wasted, and much time was lost by our operators in our cone winding having to remove cones, weigh them, and return them to the spindles for more or less yarn—due to the weight being incorrect.

A very simple, cheap, and easily adjusted gauge I made proved entirely satisfactory in eliminating those difficulties. With the gauge it is only necessary to wind and weigh the first cone correctly and then set the gauge to it. All subsequent cones can be tested while on the spindle.

CONTRIBUTOR No. 8980



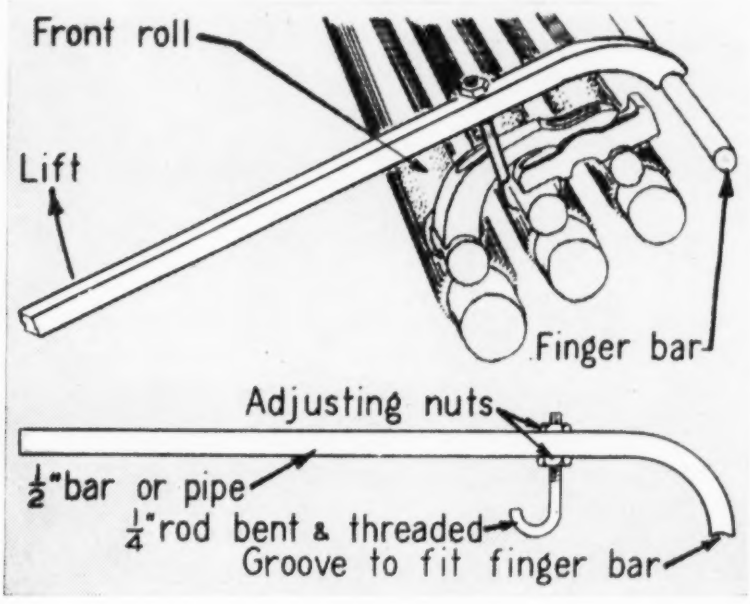
Top spinning roll changing made easy

EDITOR TEXTILE INDUSTRIES:

In the mill where I am employed we sometimes have front top rollers to change—sometimes one side, sometimes the whole frame.

This being a somewhat tiresome and tedious job, I made the gadget shown in the illustration to eliminate the need of unhooking the weights by hand.

By placing the grooved end of the tool upon the finger bar and placing the hook under the saddle behind the front top roller, then raising the end marked "lift," the front roller is left free



The distance between the hook and the grooved end may be determined to fit whatever spread of rollers is necessary. The hook is to be turned parallel to the roller when in use. This gadget I find to be most useful and adaptable to most spinning rollers.

CONTRIBUTOR No. 8963

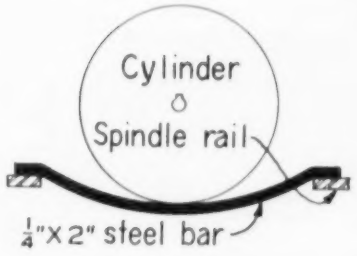
Support speeds cylinder changing

EDITOR TEXTILE INDUSTRIES:

The removal of cylinders on spinning and twisting frames is sometimes a headache to foremen and fixers, particularly when there is no support for one cylinder section when another section is removed. Lack of support is not good for the cylinder shaft—it should not be allowed to drop and place strain on the bearing and the shaft. Some fixers use a crowbar to raise and hold up the unsupported end, but at best this is a crude way of handling a cylinder.

For many years I have used the simple device shown here. It is just a piece of steel stock, ¼" x 2", bent by the blacksmith so that the cylinder can rest on it. The bar extends across the frame from one spindle rail to the other.

The arc of the bar can be made to fit any particular size of cylinder so that it is in the exact position required when the other cylinder section is to be joined to it.



CONTRIBUTOR No. 8981

Fewer mispicks

EDITOR TEXTILE INDUSTRIES:

By welding a piece of ⅜" key steel on the left side of the center fork knock-off bunter, we make our looms stop any time the center fork knock-off spring breaks. The handle will not stay on until the broken spring is replaced. This will reduce mispicks due to the loom running with broken springs.

We have had our bunters made in this shape instead of welding the key stock, and are now running a test to see if it will pay to have these made rather than to continue to weld the stock onto the bunters.

CONTRIBUTOR No. 8923

The prize of $100 *may be yours! Enter your kink of kinks now. The current contest closes August* 15, *and entries must be postmarked by midnight of that date.*

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Pile destruction at
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76,000 pedestrian traffic
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Pedestrian traffic 98,000
60% Rayon—40% Nylon
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Pedestrian traffic 98,000
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Pedestrian traffic 98,000

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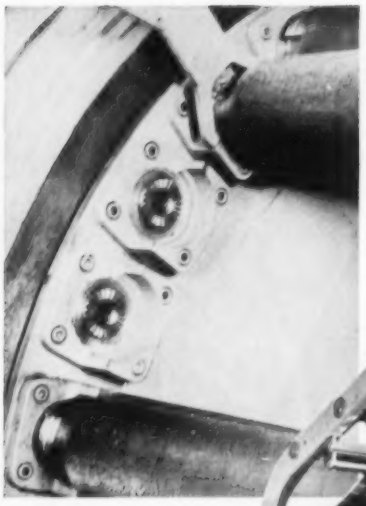
Identical strips of carpeting—without padding of any type—were laid on bare, rough steps in an industrial plant and subjected to heavy plant-personnel traffic. Each carpet contained a different percentage of nylon as indicated in the unretouched photograph shown. The carpets were rotated progressively and regularly. Top 3 samples were removed after stair-edge showed 80 to 95% pile destruction. Test for remaining 4 was stopped at the 98,000 pedestrian mark.



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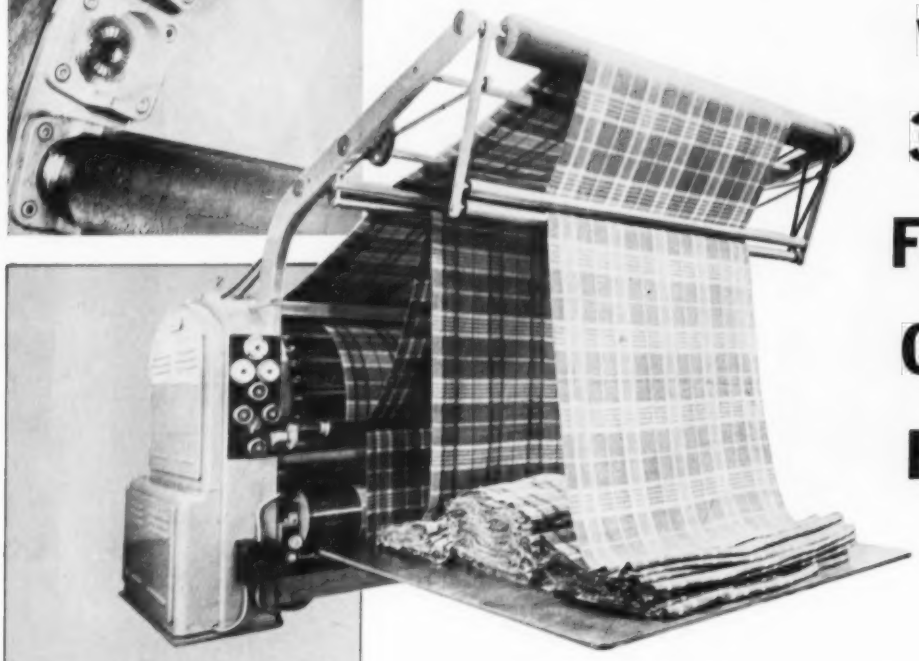

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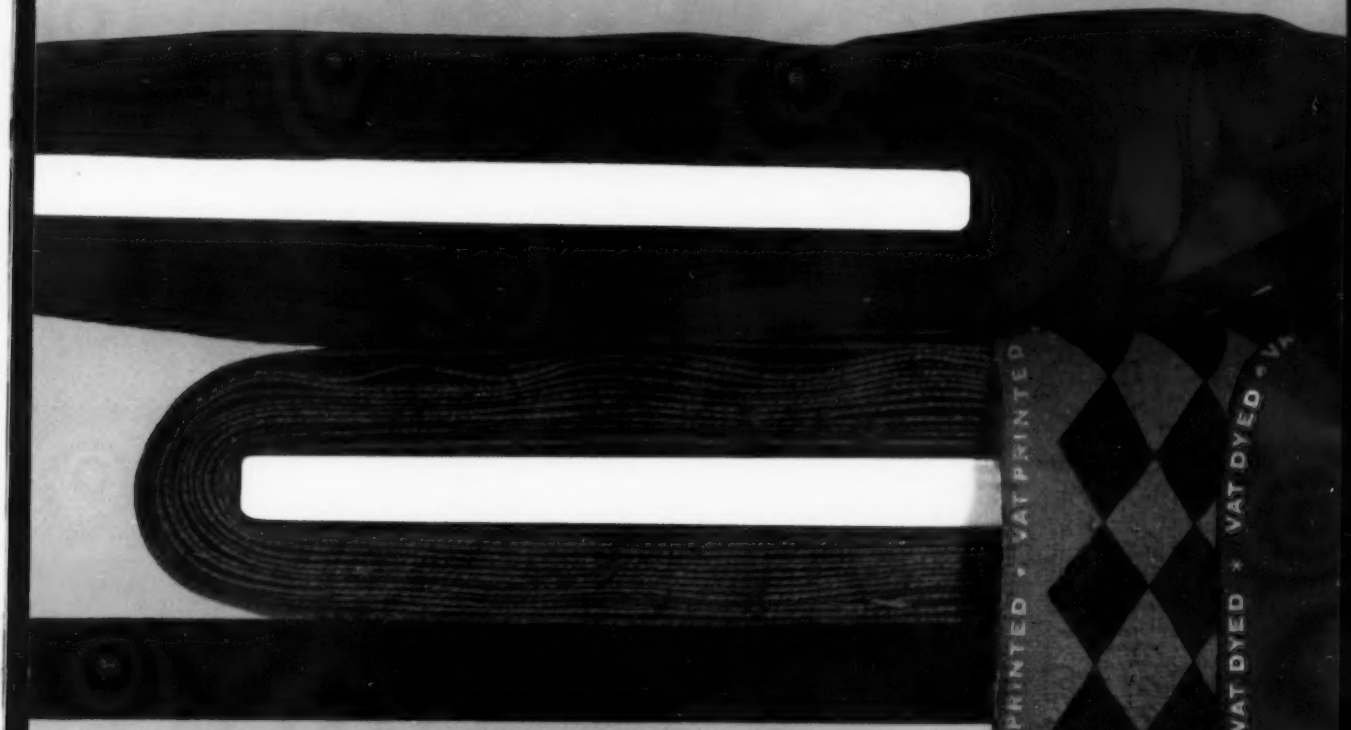

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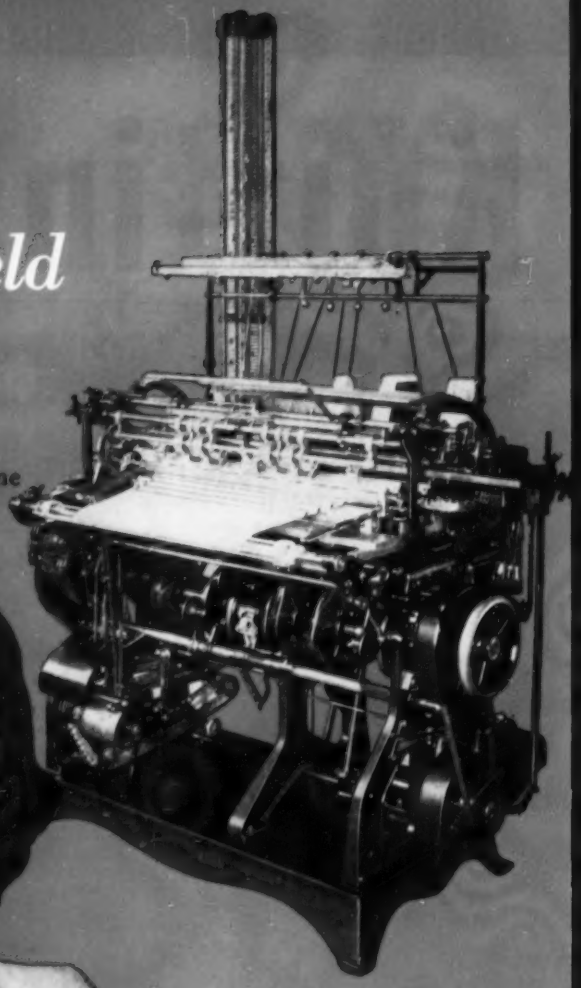

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Ladies' hose length control system

gives uniform foot size, plus welt and over-all length

SECT.	HEEL	OVERALL
1	5 1/2	31 3/4
2	5 1/2	31 3/4
3	5 3/4	32 1/4
4	5 1/2	31 1/2
5	5 1/4	32 1/4
6	5 1/2	32 1/4
7	5 1/2	32
8	5 1/2	32
9	5 1/4	31 1/4
10	6	32 3/4
11	5 1/2	32
12	5 3/4	32 1/4
13	5 3/4	32 1/4
14	5 1/2	31 3/4
15	5 1/2	31 1/2
16	5 1/4	31 1/2
17	5 1/4	31 3/4
18	5	31
19	5	31
20	5 1/4	31 1/2
21	5 1/4	31 1/2
22	5 1/2	32 1/4
23	5 1/4	31 3/4
24	5 1/4	31 1/2
25	5 1/4	31 1/2
26	5	30 3/4
27	5 1/4	31 3/4
28	5 1/2	32
29	5 1/4	31 1/2
30	5 1/4	31 3/4
31		
32		

TEST BY W. T.

Figure 1 (left). If heel and over-all lengths are recorded, they are usually noted in vertical columns like this. Consequently, irregularity of foot size is not revealed.

by Joseph C. Cobert
Exclusive

LENGTH control has been the subject of numerous articles, but there has been a noticeable absence of information concerning the control of foot size. It is apparent that there is an urgent need to achieve uniformity in the fitting qualities of this critical part of the stocking.

It is not a difficult matter to control foot size within a tolerance of plus or minus one-quarter size. In size 9½, for example, foot size can be controlled within a tolerance of 9¼ to 9¾, and of course, with the average favoring size 9½.

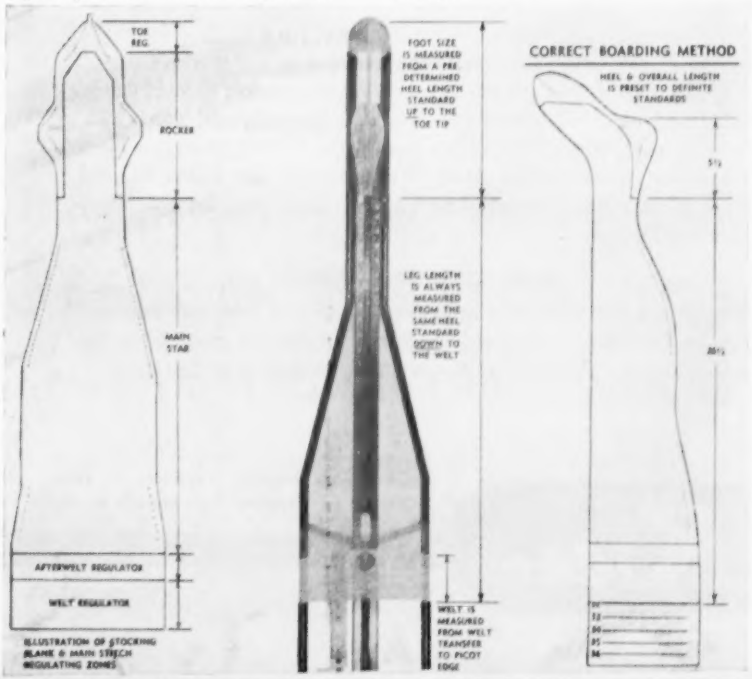
Desirable as this may be, it is not being attained by the majority of mills. This is a fact even in the case of a single style, especially if made on a large number of machines. It is particularly true in mills where a number of constructions in various gauges and deniers are being made.

There are many technical reasons why foot size is not closely controlled. Briefly they concern: (1) The course differential applied between sizes, (2) The method of testing and recording results, and (3) The manner of processing.

In preboarding, for example, it is quite easy for a boarder to set heels to a standard length even when feet are considerably smaller or larger than the attainable tolerance previously mentioned. With a bit of "forcing" and "floating" in preboarding the foot and heel on size 9½ forms, it is even possible to make size 8½ and 10½ nylons *look* like size 9½.

To the layman this statement may sound like an exaggeration. Nevertheless, as most mill men well know, stockings made as size 9 or 10 have been purposely boarded "up" or "down" on size 9½ forms, to fill a pressing order from a depleted grey stock. Considering the usual stitch irregularity, some size 9 stockings may have been knitted tightly enough to fit size 8½ feet, while some size 10 stockings can be loose enough

Figure 2 (below). The Volumet principle. Note that foot size is measured from a predetermined heel length standard up to the toe tip.


TOE REG.
ROCKER
MAIN STAB
AFTERWELT REGULATOR
WELT REGULATOR
ILLUSTRATION OF STOCKING BLANK & MAIN STITCH REGULATING ZONES
FOOT SIZE IS MEASURED FROM A PRE-DETERMINED HEEL LENGTH STANDARD UP TO THE TOE TIP
LEG LENGTH IS ALWAYS MEASURED FROM THE SAME HEEL STANDARD DOWN TO THE WELT
WELT IS MEASURED FROM WELT TRANSFER TO PICOT EDGE
CORRECT BOARDING METHOD
HEEL & OVERALL LENGTH IS PRESET TO DEFINITE STANDARDS

You can see why the NEW KIDDE KNITTER is revolutionizing the lace industry

Look at that lace. It's elaborate, intricate and fine – *much* closer to imported lace than any other made on knitting machines. Ten guide bars on the Kidde Raschel Knitter have made these incredibly beautiful designs possible – and have revolutionized the whole lace industry. The ten guide bars even give you liners to outline the gimp. And consider the speed! – up to 300 courses per minute. It will run with anything from 2 to 10 guide bars and it'll make virtually anything you want from tulle to elastic fabrics. No wonder it's already the most widely used Raschel type machine in the world.

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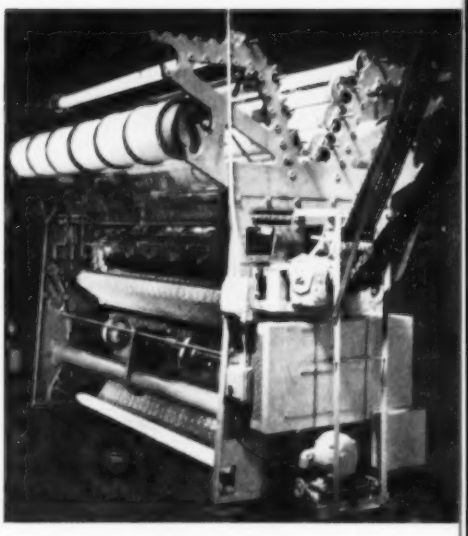
We will gladly send you swatches of fabric and complete information on the range, speed and quality of production possible on the Kidde Knitter. Write today for details to Department KLG1.



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The "Reading" CK-A Circular Knitting Machine

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to fit size 10½ feet.

Foot size irregularity of plus or minus a half inch is not an unusual condition to find in most mills. Unfortunately, the method of testing and recording foot size, as practiced by many mills, does not reveal the condition.

The common method of size control consists of pulling numbered grey stockings on a cold boarding form, of the size in question, and then measuring the heel and over-all length. In some instances the heel is measured to the closest quarter inch and in others, to an undefined space between two lines. If the heel and over-all length is recorded, it is usually noted in a vertical column as illustrated in *Figure 1*.

For proper test analysis, heel and over-all length results should be tallied in a manner that divides the knitting machine in half. This is necessary because each half of the machine has its separate stitch regulating controls. However, this factor is frequently overlooked and if results are summarized, they are usually tallied under a single heel and length standard. Because of this short cut, a simple analysis is difficult to make and, as a result, the knitting machines do not receive proper adjustment.

While the cold board method of sizing stockings helps to correct foot size irregularity when results are properly summarized, measurement is likely to be inaccurate in view of the variable human element involved. Even when the form is mounted on springs, or by other means of equalizing pull, heel length can vary according to the degree of pull used to place the foot portion on the form.

Pulling a stocking down at the welt, even at 40 pounds of pressure, will not restretch the foot fabric to an accurate degree. Furthermore, when the foot is too large the heel pocket is pulled off the heel ball to a narrower area of the form. Therefore, the widest instep part of the foot fabric is elongated more than it would be in boarding, and an unknown quantity is added to the heel, *as well as to over-all length.*

The latter factor is really misleading to the machine adjuster. As illustrated in the stocking blank of *Figure 2*, the heel and sole reinforcement of the single unit stocking is regulated by the same mechanism, called the rocker. Therefore, the heel must be considered an integral part of the foot. Due to this and the fact that it is desirable to set the heel to a standard length in boarding, it is obvious that foot size should be measured from the heel panel to the toe.

The telescoping toe of the Volumet permits foot size to be measured this way, and always from a standard heel length. This distinctly separates foot size from leg measurement, thereby providing the machine adjuster with a reliably accurate report of all major parts of the stocking.

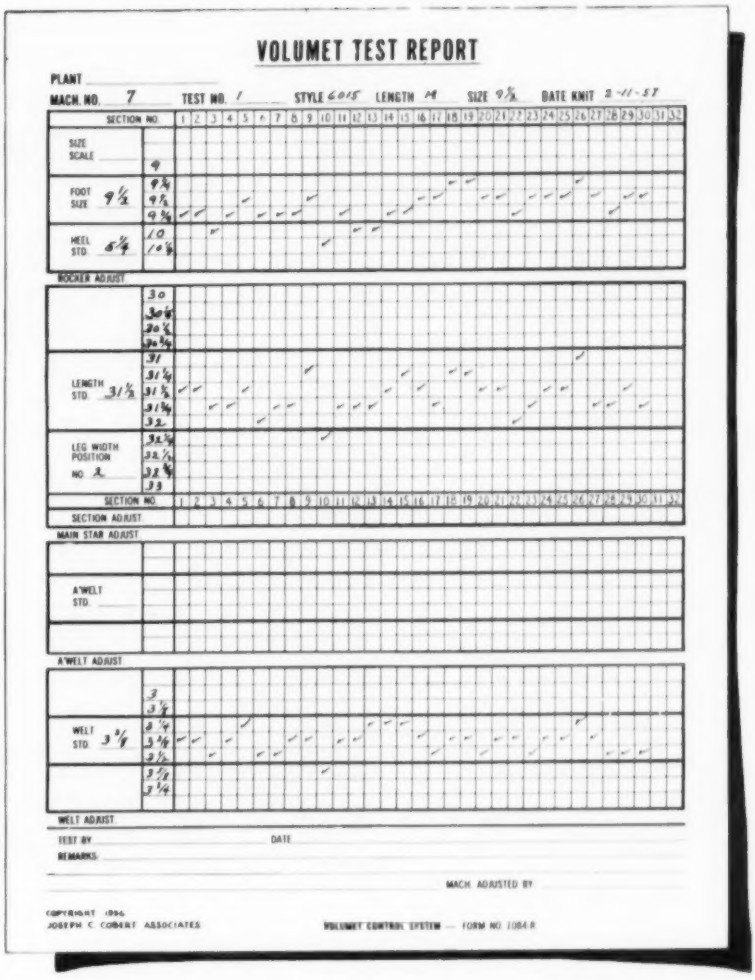


Figure 3. Foot size, as well as welt and over-all lengths, are recorded by check marks in a self-summarizing procedure.

The copyrighted Volumet test report, shown in *Figure 3*, illustrates how foot size, as well as welt and over-all lengths, are recorded by check marks in a self-summarizing procedure. The heavy parallel lines thereon plainly indicate a permissible tolerance for each part of the stocking. With just a glance at this report the adjuster can see that a rocker adjustment is required to shorten the feet made on the left half of the machine, and that only section 10 needs a minor adjustment to shorten both the foot and leg.

From the consumer's viewpoint, uniformity in hosiery foot size is just as important as wearing length. Good fitting stockings look, feel, and wear better. Even more important, *they assure repeat business.*

Planned Controls

for waste and maintenance aid tricot knitting at Guilford Mills, Inc.

Washing beams with a soap-base preparation combines sealing and polishing operations.

Staff prepared Exclusive

DO YOU WANT to knit or don't you? This is the question often faced by management, and at Guilford Mills, Inc., Greensboro, N. C. The same question is passed down the line to every employee. The stimulating question must be kept in the foreground as a constant reminder that efficiency must be the goal of everyone in the mill.

If everyone is serious about wanting to knit and keep the mill running, the job can be done effectively and competitively, according to James M. Hornaday, president.

A planned program was undertaken to keep operations in line competitively. This program is now less than six months old and is paying off.

Waste has been cut considerably to maintain the level of economy necessary to compete in todays market.

The following practices are employed by Guilford Mills to assure effective operation: Waste must be kept to from .10 - .15%, including waste knitted fabric as well as yarn as set forth in the mill standards.

Efficiency on tricot machines is established at the 95% level at Guilford. Shelton Thomas, general manager, stated that quality standards are established at 2% seconds grading on trade standards.

75% - 90% of quality control is at the warping operation, according to Mr. Thomas.

Operatives inspect package position and alignment daily on each creel and warp to assure uniform and correct tension. Operatives also inspect the yarn sheet between creel and beam visually to remove any defects before the warp is wound.

The mill is currently experimenting with an automatic defect detector — the Lindley "Yarn Inspector."

Yarn packages are inspected before creeling and are segregated for rewinding if necessary. Regular cleaning is done on creels, tensions, and guides, every two weeks.

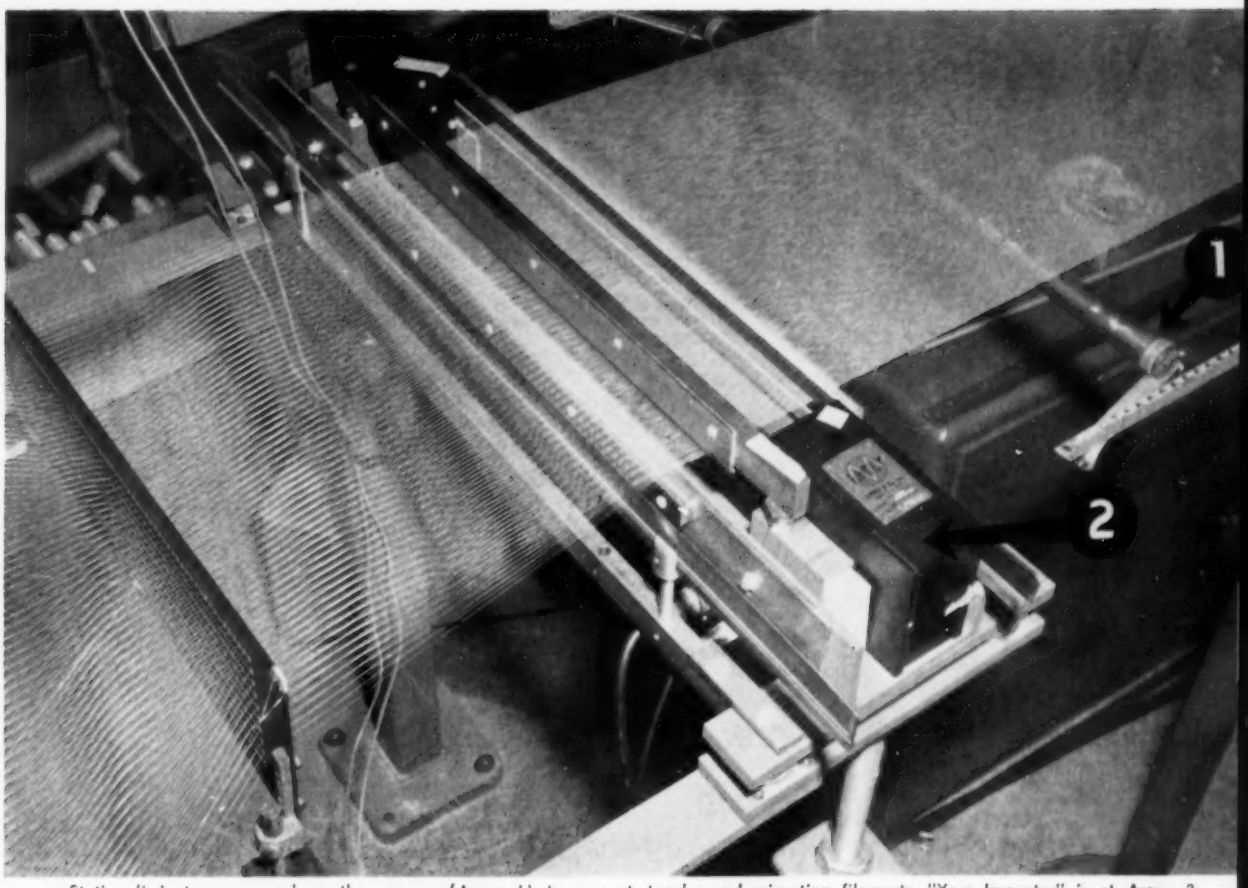
TIGHT ENDS are looked for at warping. Every time the warper is stopped, the operator runs a hand over sheet to feel for tight ends.

Static eliminators are used on warpers to avoid tangles and migrating filaments, and beams are carefully inspected for burrs and nicks before the warper is started.

Warper tenders have equipment at hand to remove burrs and nicks from the aluminum beams, including emery cloth and burnishing tools. Beams are washed with soap base preparation which seals the metal pores (see photo above).

Warper tenders and creelers wear aprons having pockets lined with mohair to hold waste and keep it out of work (sometimes static pulls loose waste into the work).

Waste is weighed separately at



Static eliminators are used on the warpers (Arrow 1) to prevent tangles and migrating filaments. "Yarn Inspector" is at Arrow 2.

warping, and operators are shown the waste accumulated as well as the value in dollars.

Defects are removed from the yarn sheets and are stuck on a piece of tape. These samples are kept for study to determine cause of various defects.

All beams are handled with overhead hoists on monorails. This prevents damage to yarn which occurs if beams are dragged about on the floor. Beams are assembled on a truck so flanges contact only hard wood on the truck instead of steel or concrete floor. At each runout new beams are mounted after the machinery is thoroughly cleaned and lubricated.

Needle bars and guide bars are checked then because when needles are replaced it is difficult to align them properly while fabric is on the machine. These are properly aligned while new warps are being assembled and mounted. Both needles and guides are checked.

Sley points or separator points are checked for alignment and roughness at the same time needles and guides are checked. These are removed at about four-six weeks to polish and buff to remove roughness.

Guides and needles are carefully checked for wear caused by the nylon yarn. When warps are being mounted, a cross section of the guides are examined under binocular miscroscope. If excessive wear is noted, all of the guides are replaced.

The needle man runs his finger nail across the needle bar. This breaks off any fatigued or worn needles or needle beards, and broken needles are replaced. This practice forestalls many broken needles while knitting. Excess tension on an end fatigues a needle quickly.

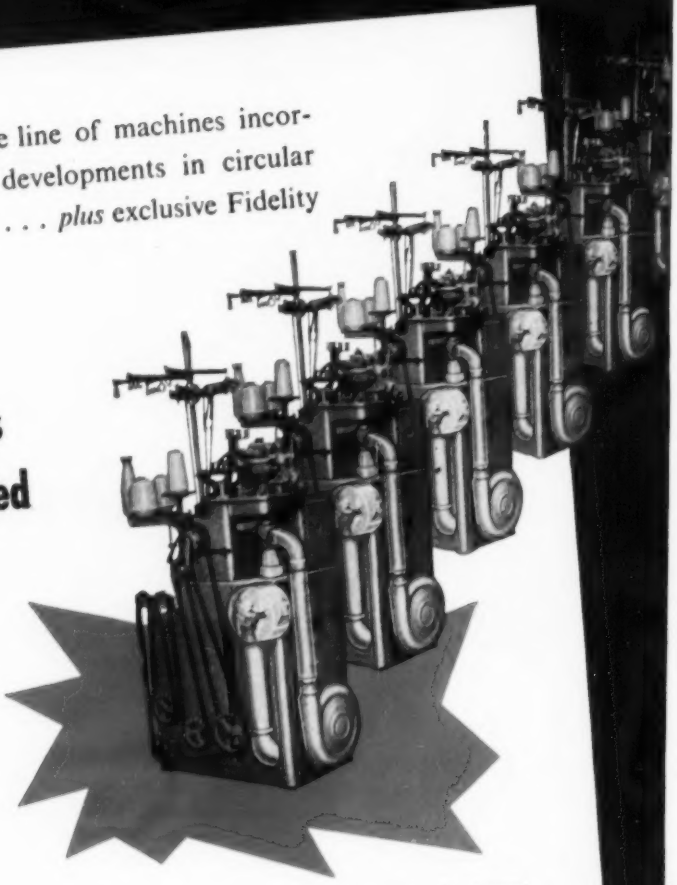
UNIFORM TENSION is maintained at warping and knitting to avoid streaks which may also be caused by worn needles and fatigued needles. All machines are set to secure minimum takeup tension to assure that correct yield is obtained by correct operation of knitting machines motions instead of by takeup.

Guilford Mills uses 40d to 15d nylon to make warp knit fabrics on Reiner and Whitin tricot machines 168″ wide. The fabrics are used primarily in lingerie. This mill was started with eight machines about 12 years ago under the management of James M. Hornaday, and has grown from production of 6,000-7,000 pounds per week to about 35,000-36,000 pounds per week with 48 machines. Only grey goods are made here.

This mill has operated around the clock, six days a week, from the start, a record which attests to management's effectiveness, modern equipment, and employee cooperation. *(More on p. 177)*

FIDELITY for SEAMLESS

Only Fidelity offers a complete line of machines incorporating *all* the outstanding developments in circular knit hosiery equipment design . . . *plus* exclusive Fidelity electronic control!



- **400 or 474 Needles**
- **Single or Double Feed**
- **Automatic Tension Device**
- **Plain, Mesh or S-T-R-E-T-C-H**
- **Individual Motor Drive with . . .**
- **Electronic Push Button Control**

You select the performance features *you* want . . . when you select a Fidelity. See the *complete* Fidelity line in operation at our showrooms . . . or write for stocking samples today.

Designers and Builders of Intricate, Automatic Precision Machines

SINCE 1911

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3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

EXPORT DEPT.: 11 BROADWAY, NEW YORK 4, N.Y.

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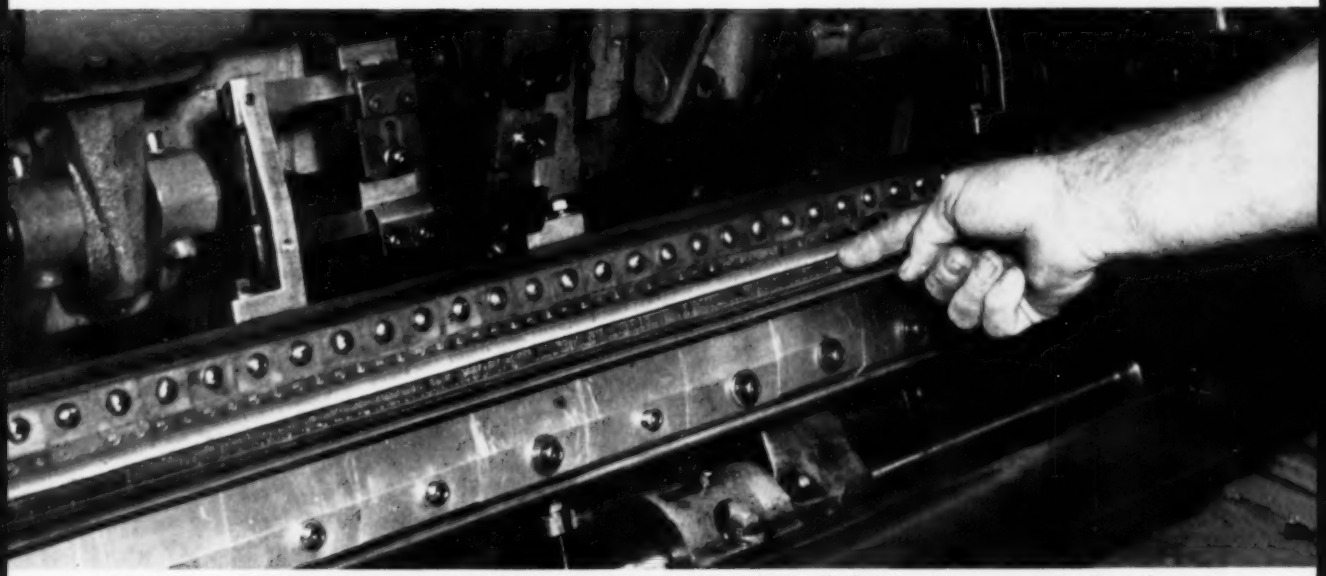
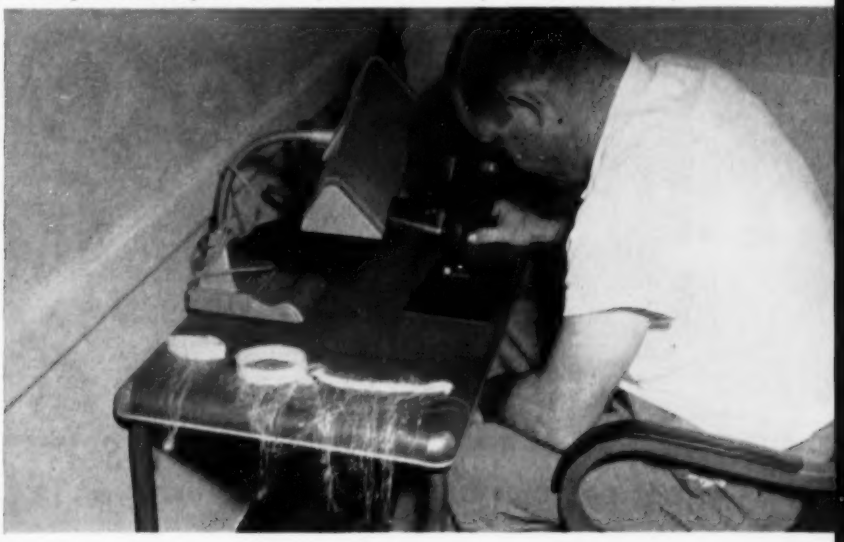


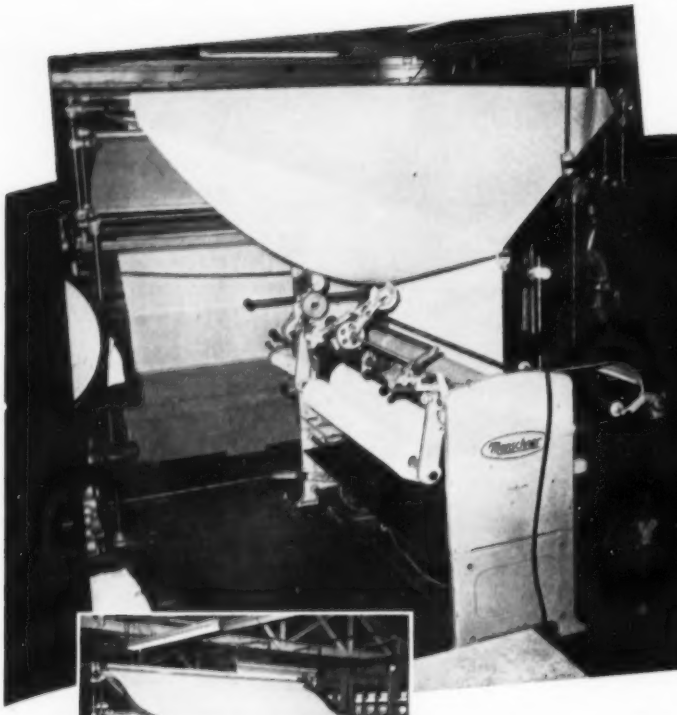
While the warp is out the needle man runs his finger over the needle bar to break off all fatigued or worn needles for replacement.

Beams are handled by overhead hoists to minimize yarn damage from scuffing.

The binocular microscope is used to check the wear of machine parts and the yarn imperfections gathered during the various operations. The bad yarn is collected on tape.



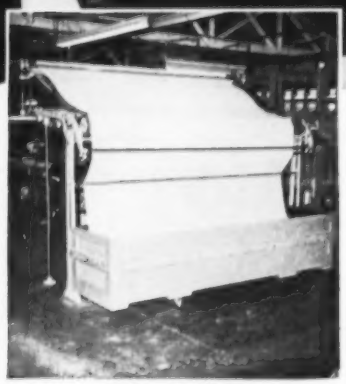
While the aluminum beams are mounted on the warper, the warper tender de-burrs the beam and smooths down all scars prior to the beginning of the warping operation.



New

HIGH-SPEED,

Doubling, Measuring and Rolling Machine



ALSO AVAILABLE is an attachment (Automatic Guider for Self Doubling, Model S.D. IV) which aligns selvages automatically.

added to REINER'S EXPANDING LINE

It is with pride that Reiner offers this efficient, economical producer—ideally suited for both woven or knitted cloth. Available in various widths up to 120" for open goods (finished goods are doubled and rolled to 60" width). Larger widths can be furnished upon request.

SPECIAL FEATURES:

- 3-Speed drive permits large range of speeds for adaptability to various fabrics.
- Goods can be handled from either folded condition, loose scray or from rolls.
- Machine gives unmatched performance and accuracy even at high speeds.
- No experienced help required for operation of unit.
- Machine prints yardage after each run—insuring accuracy, and eliminating chance for error.

Write for complete details and interesting case history regarding actual mill use of this machine.

THE REINER LINE:

Tricot Machines—Simplex (Double Knit) Machines—Raschel Machines—Tulle Machines—All types of Warpers, Beamers and Creels—75 Gauge (4 section) Full-Fashioned Hosiery Machines—Full-Fashioned Sweater Machines—Schaffhouse Flat Power Knitting Machines—Automatic Schiffli Embroidery Machines (10 and 15 yds.)—Multihead Automatic Jacquard Embroidery Machines—Automatic Bobbin Winding Machines (for stitching and quilting)—Jacquard Pattern Repeating Machines—Reiner-Famatex Tenters—Rabo Permanent Pleating Machines—Menschner Gauged, Doubling, Measuring and Rolling Machines—Menschner Cloth Control and Marking Device—Ready Spare Parts Service for all Reiner Machines.

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 **550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY**

Press-off draw thread attachment

for Komet hosiery machines saves time, labor, and yarn

by K. O. Metz
Exclusive

BY USING and controlling a flow of compressed air, the new press-off draw thread attachment for Komet machines eliminates the need of a draw thread and reduces the separating operation to cutting and pulling one end of yarn instead of two. This means a saving of time, labor, and yarn at a time when most mills need more of these valuable devices to help combat ever-increasing manufacturing costs coming from every direction.

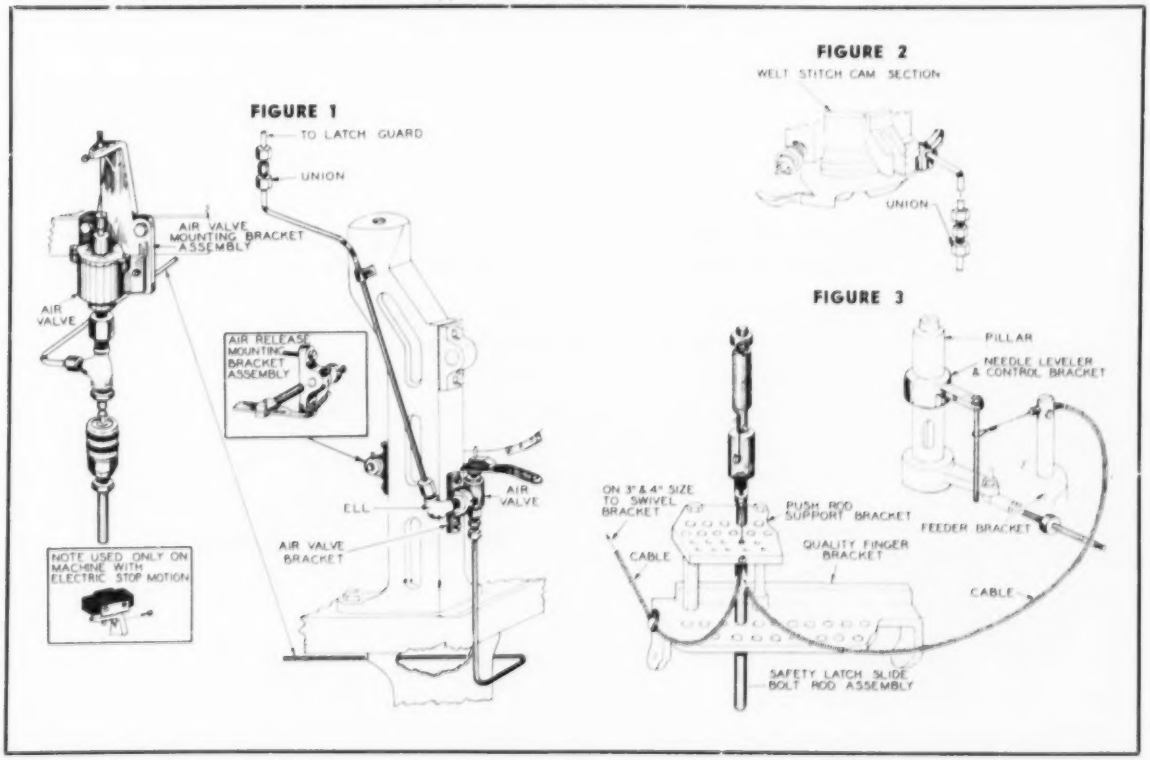
Just how much can be saved depends to a great extent on the type of goods being made, but the time required to pull out the strands of yarn is cut in half. There will be a reduction in seconds due to the elimination of operators cutting into the welt because the strand to be cut and pulled out is loosely knit and much more open. This condition makes it easy to see where to cut the stitches and which strand to pull out.

Another advantage of this new method is that the darners can be taught in much less time than with the two-thread method, and they will pick up speed at this operation much faster. The one requirement necessary with this attachment is that the knitting department be supplied with compressed air (most mills are already equipped with such).

From the time the Komet machines made their first appearance it has been necessary, because of the way in which the socks are made, to separate them by clipping and pulling out two strands of yarn which are knit immediately before the welt is made. One strand is the regular body yarn; the other (usually tinted when running natural yarn) is referred to as the draw thread.

Tinted yarn or colored yarn of some kind was necessary so the operator could select the correct strand to pull out first. It was necessary for the operator to cut a small hole at a given place and pull out a strand of draw thread yarn first, then pull out a similar strand of body yarn to separate

These three drawings, which were reproduced by permission of Scott & Williams, Inc., from the installation instructions supplied with the apparatus, show how the press-off draw thread attachment is controlled.



IMPORTANT ANNOUNCEMENT!

from the Man of Many Talents

FLUF dyed
TRADE MARK

A New, Exclusive Method of Dyeing Hi-Bulk Orlon* Yarns

Franklin's FLUFDYED procedure overcomes the objections found with previous methods of yarn dyeing Hi-Bulk Orlon.

Because the yarn is fully bulked when dyed, the following advantages are realized:

KNIT TO SIZE – Garments can be knitted to size, thus eliminating size variations which take place when dyeing occurs after knitting.

MINIMIZED FINISHING – The necessity of additional tumbling after knitting is eliminated and only steaming is required in order to achieve a soft hand.

PATTERNS AND STRIPES – The field is open for multi-colored style creations without the necessity of long deliveries from spinner to knitter.

Ask "the man of many talents" – your Franklin Process Representative – about FLUFDYED Hi-Bulk Orlon yarns. Tell him your requirements. He'll be glad to make recommendations.

*Dupont's Acrylic Fibre

Franklin Process

Yarn Merchants & Largest Package Dyers in the World

Providence • Philadelphia • Greenville
Chattanooga • Fingerville, S. C.
New York office – 280 Madison Avenue

the socks which are produced joined together in chain fashion. Separating the joined socks by the draw thread method leaves a neat and clean welt which forms the beginning of the knitting cycle for each sock.

Installation of the attachment is easy. A new latch guard must be installed on the auxiliary feed side. The tubing carrying the air to the latch guard has a manifold which is attached to the latch guard. The latter has a small hole through which the air flow is directed to the needle latches. Without a draw thread a partial press-off would occur; but with a flow of compressed air directed against the needle latches they remain open and thus avoid a partial press-off. Compressed air actually takes the place of the draw thread normally used.

For Models 12 and 34—long drum—2½" to 4" with S & W 2nd feed unit, install the air valve (Fig. 1) mounting bracket assembly to the back side of the machine frame, the air valve bracket on to the bed plate support, the air valve onto the air valve bracket, and the air release mounting bracket assembly onto the bed plate support.

Remove the existing latch guard from welt stitch cam section and replace with new latch guard. Attach air manifold onto latch guard. For these, refer to Fig. 2.

Cut out the required lengths of ¼" copper tubing and connect to ell and union as in Fig. 1. Connect the other piece of tubing to union and attach the other end to air manifold on latch guard as in Fig. 2. Follow the same procedure to install the copper tubing from air valve on bed plate (Fig. 1) support to air valve on machine frame.

For mechanical stop motions install the cable post to frame and connector (not shown) to trip bar and install operating cable. Install catch lever (not shown) to lower transfer lever.

On 2½" and 2¾" machines remove the existing draw thread bolt cam operating rod and replace with new one furnished. On 3" to 4" machines install operating lever assembly on to swivel bracket. Remove the existing draw thread bolt slide and replace with new one furnished.

Remove the existing camming set-up from draw thread bracket and reassemble with the new cams and spacers supplied.

Install the safety latch slide bolt rod assembly as shown in Fig. 3.

On 3" to 4" machines install operating cable on safety latch slide bolt rod and other end to operating lever on swivel bracket (not shown).

On 2½" and 2¾" machines use cable on safety latch slide bolt rod and connect the other end to the needle leveler and control bracket as in Fig. 3.

Install drum racking plate onto rack. There are special cams for installation on the quality drum, five in fact, and these are to be installed exactly as the instruction sheet directs.

Knowledge withheld is knowledge wasted

(This message to the employees from the management of Union Bleachery, Greenville, S. C., appeared in the March 18, 1957, edition of The Commentator, *the company's weekly employee publication. Because the problem cited is one that is industry-wide and because of the clear and concise manner in which it is presented, the entire article is reprinted here since it may serve as an aid to readers who have industrial relations responsibilities. —The Editors.)*

■ I recall an old printer foreman who seemed to take great pleasure and pride in seeing young printers under his supervision flounder awkwardly at a job on which they were inexperienced or did not know as much about it as they should. He would always stand by with a knowing look; he would remark, "You'll remember it better if you find it out for yourself."

There are a lot of supervisors and workers on the job today who are short-sighted like that old printer foreman, who believe that one way to protect their own jobs is to withhold their knowledge from others with whom they are associated on the job.

The amount that one man can accomplish alone and by selfish retention of his own ideas, discovered through years of practical experience, is very limited and out of date.

Think how much more can be accomplished if everyone will share that knowledge with all those working with him. They in turn will become "extensions" of his knowledge, his own ingenuity and his own ability.

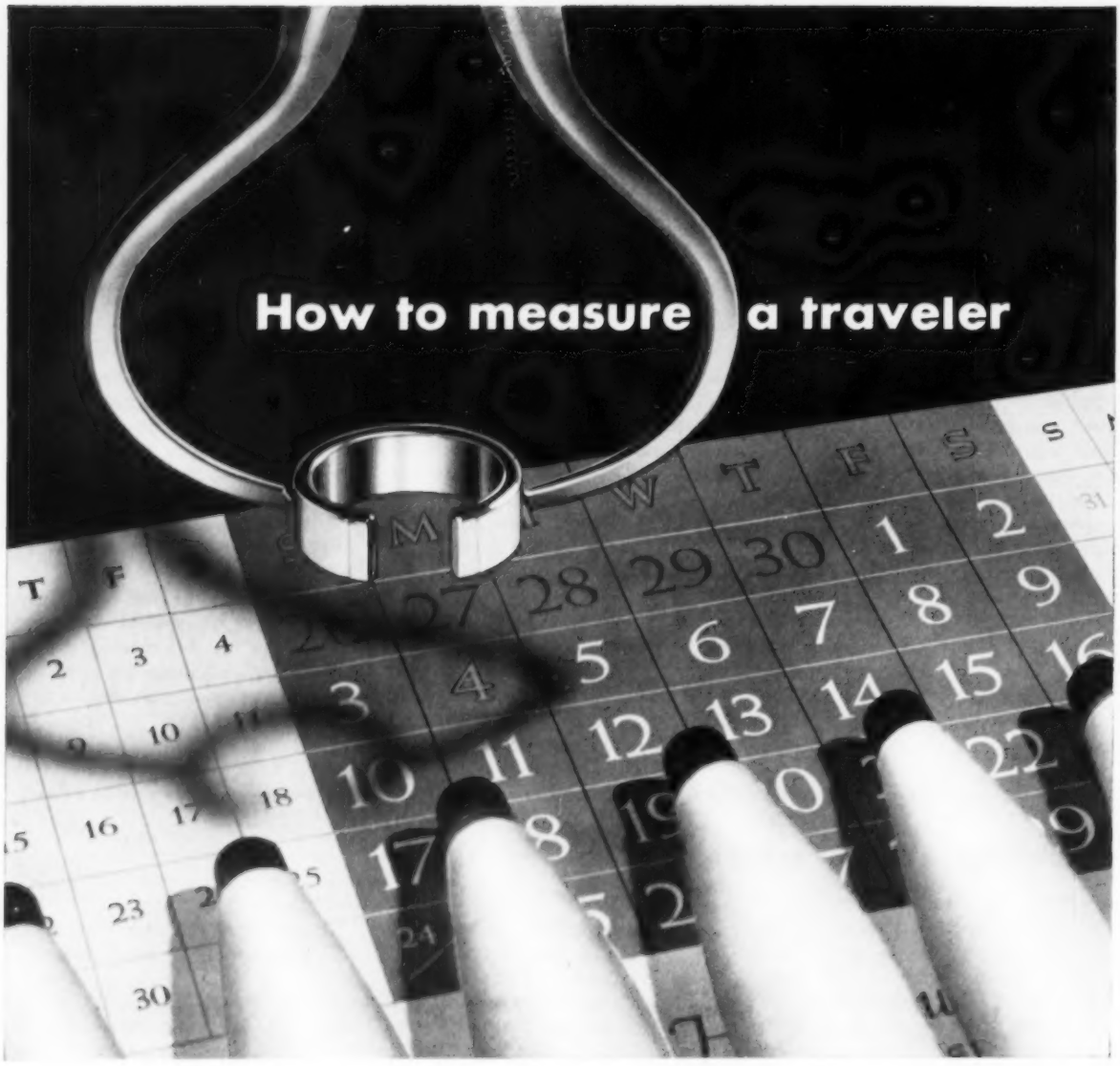
A foreman, a supervisor or anyone with authority fails according to his ability to get other people to put his ideas to work.

If you know a better way to do any part of our work, speak up when you can, especially to your foreman, about it. You'll be appreciated for your interest, and you will not fail to get credit for your idea.

The day is past when one can be successful on his job by trying to work on the principle of shining in contrast to the dullness of those under you or with you.

Withholding knowledge from others that work with you that will make them more efficient and more capable employees is a distinct waste of practical knowledge.

Keeping knowledge or better ways of doing the job under your hat is of no advantage to you; it is like a seed that is never planted, that never germinates but dies within itself and its own husk and hull.



Measure a traveler by days of trouble-free service, and by pounds of first-quality yarn delivered. Travelers vary widely by this test, even though they *look* alike and meet dimensional specifications.

Under *any* conditions, you can be sure of maximum production per traveler when you rely on Victor experience and quality control.

That's the reason why Victor Travelers are chosen for over 12,000,000 spindles. Mill men everywhere find that Victor quality pays off, consistently, in longer traveler life . . . with fewer ends down . . . at higher spinning and twisting speeds.

A Victor Service Engineer will help you select Travelers that measure up to maximum production on any yarn you are running. Write, wire, or phone for prompt service.

Keep a Step ahead with

VICTOR Ring Travelers

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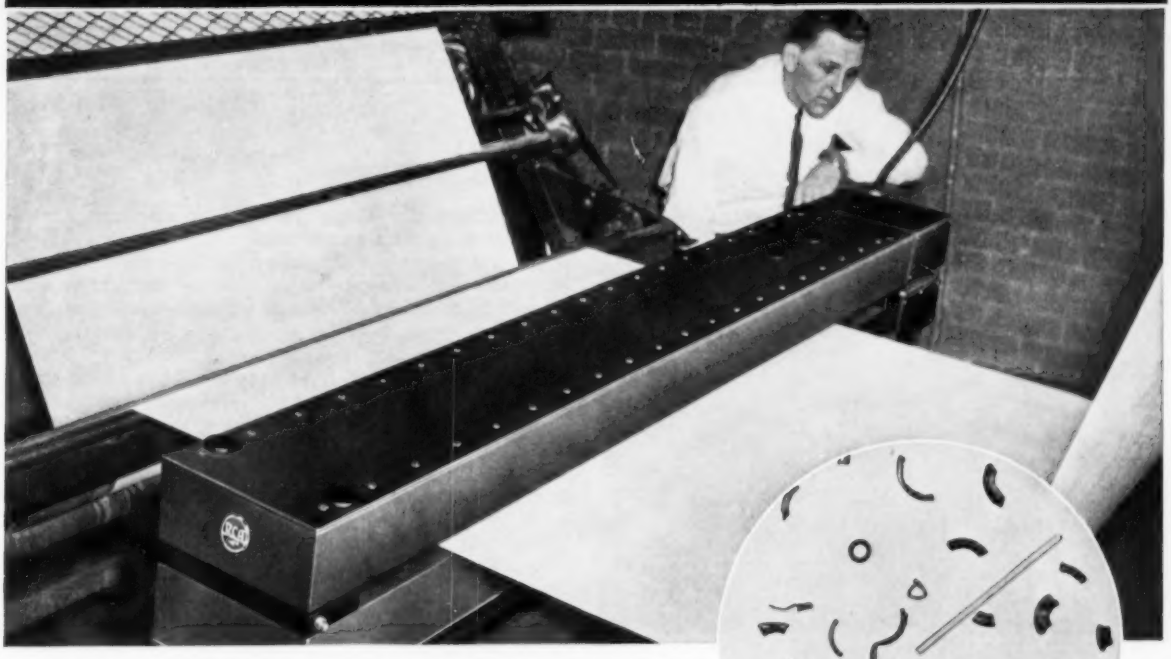
For further information use Handy Return Card, Page 197

Prevent Costly Damage to Textiles!



Some of the metal detected

New RCA Metal Detector Spots These Troublemakers Before They Can Harm Equipment or Fabrics

At Klopman Mills, High Point, N.C.—one of the nation's outstanding quality mills—the RCA Metal Detector is installed before the shearing machine. It also can be used to protect the calenders in a finishing mill and in other vital locations where material can pass between the aperture that "sees" the tramp metal. It automatically detects metal particles of all types—both magnetic and non-magnetic—even though they may be woven or knitted into the fabric.

FOR SPEEDS UP TO 1000 FT. PER MIN. Used on strip material traveling at speeds from 10 to 1000 ft. per min. with full inspection sensitivity, it will detect a piece of metal smaller than a pinhead (1 mm dia.). Finding particles the eye could never see, the detector can be arranged to sound an alarm, or stop the traveling material.

EASY TO OPERATE. Anyone can operate this equipment with ease and safety because of simple Control Unit design and complete absence of moving parts or exposed electrical connections.

PAYS FOR ITSELF! Wherever installed, RCA Metal Detectors have paid for themselves—two or three times in a year—in longer life of costly machinery, decreased downtime and savings in product. Price in U.S.A. $2650, f.o.b. Camden.

The RCA Metal Detector can be put to work quickly in your plant by maintenance personnel under the supervision of an RCA Service Company expert. Nationwide facilities are available to keep maintenance at a minimum. Get full particulars. Mail coupon.

Mark of RCA Quality Tmk(s) ®

ELECTRONIC

METAL DETECTOR

RADIO CORPORATION OF AMERICA
Dept. S-271, Building 15-1, Camden, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

Please send me information on the RCA Metal Detector for textile applications.

NAME _____ TITLE _____

COMPANY _____

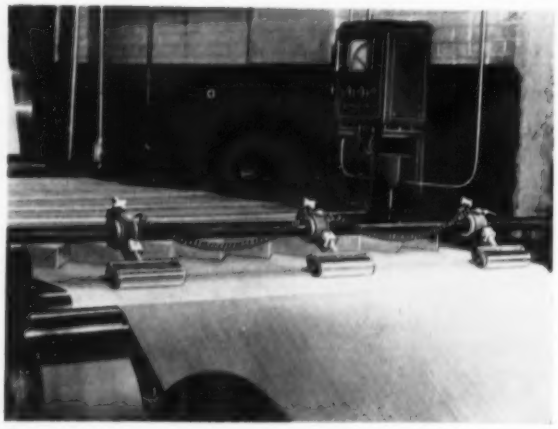
ADDRESS _____

CITY _____ ZONE _____ STATE _____

NEW EQUIPMENT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors



Warp-width moisture control at slasher

The Hunter Electro-Psychrometer exercises control over the hazards of too much moisture and over-drying at the slasher. Through the use of three sensing rollers measuring across the full width of the warp, the unit gives complete moisture indication—accurate and instantaneous under all conditions.

Each sensing roller is automatically and properly suspended by a swivel bearing to give precise, even pressure on the warp ends. The device offers adjustable speed impulse regulation to insure adaptability to any slasher, and to permit appreciably higher operating speeds. Quickly corrective speed control response to hold close moisture control without hunting is another advantage.

An adjustable timing feature prevents control overshoot after the slasher has been stopped or run at creep speed. This prevents tackiness.

A manual push-button arrangement allows the slasher tender to re-set run speed of the slasher at any point, thus allowing the instrument to take over in normal control zone. This eliminates considerable over- or underdried yardage caused by the normal lengthy time required to make a large change of speed automatically.

James Hunter Machine Co., North Adams, Mass.

Do you want more data? Write ◆ or use card on page 197; list E-101

Central air conditioner requires 1/3 space

A central air conditioning device for textile and other industrial plants takes only one-third the space of present equipment, provides more accurate control of humidity, and virtually eliminates cleaning and maintenance.

Called the Rotaspray Weathermaker, the device incorporates a "spin-dry" principle to remove water droplets, lint, and other foreign matter—the new system will also permit higher air velocities.

The key feature of the unit is a self-cleaning rotary eliminator which operates at air velocities up to 2400 fpm. Its self-flushing action virtually eliminates unit cleaning and maintenance. The unit resembles a cylinder slightly thickened at one end.

Units range in length from 16 to 23 feet and from four to seven feet in diameter at the large end. They can be suspended from the ceiling, eliminating the need for floor space, and resulting in greatly reduced installation costs.

Carrier Corporation, Syracuse 1, N. Y.

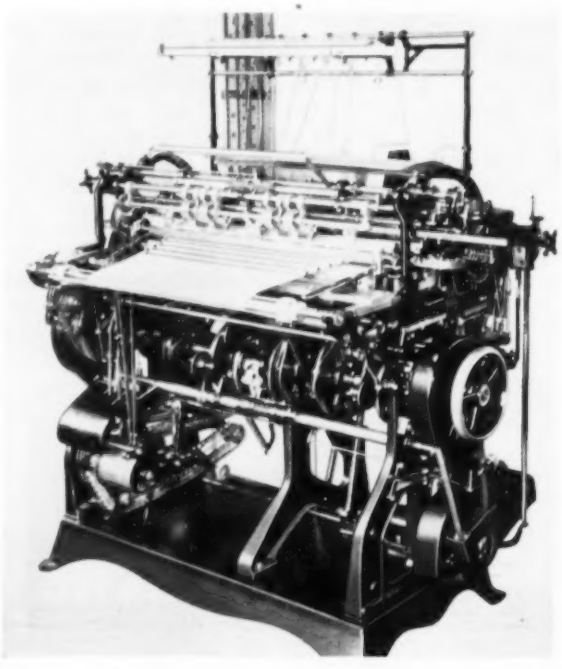
Do you want more data? Write ◆ or use card on page 197; list E-102

Single section full-fashioned sweater machine

A versatile knitting machine, the TFS, offers increased production, quality fabrics, lower knitting costs, style versatility, and simplified design in the production of full-fashioned outerwear from yarns of natural and synthetic fibers.

Available in a 30" body type, and in an 18" sleeve type, the machines are made in gauges up to 33. Speeds of the two are: 30" machine, 65 cpm; 18" machine, 85 cpm.

Some of the features of the machines are: resetting of fashion bars and carriers is fully automatic; all-sinker type machine makes better selvage; single or double



needle narrowing; covering fingers for widening; five-carrier system; three-carrier stripe combinations controlled by separate pattern control chain; "V" neck attachment; lace mechanism; carriers mechanically driven; cuff transfer bar guides (for faster transferring of cuff); loose waler (making cut line for cardigan); semi-automatic welt turner; and individual two-speed motor drive.

Eight average fronts or backs per hour can be produced. Individual size and style on each machine allow better control of production. Fronts and backs can be made consecutively if desired.

Wildman Jacquard Co., 1210 Stanbridge St., Norristown, Pa.

Do you want more data? Write ◂ or use card on page 197; list E-103

Makes record of machine operations

An operations recorder (MD-Jr.) proves graphically when a device, machine, or apparatus operates and for how long. The drum-type recorder shows distribution of load by machine, operators, or production — can be used in research, development, and product testing.

The drum rotates at speeds from 4 minutes to 24 hours; the stylus advances upward ⅛" each rotation, and will record as many as 36 lines on a chart. On 24-hour rotation, any given instant of corresponding days is instantly comparable, since all are lined up vertically.

No ink is used. A stylus rests against the chart paper with its adherent layer of white opaque wax crystals. The pressure of the stylus exposes the strongly contrasting color of the paper beneath. File life of the charts is indefinite.

The unit is available with glass, plastic, or metal covering, and with drum speeds of 4, 5, 15, and 60 minutes as well as 2, 6, 12, or 24 hours.

Gorrell & Gorrell, Haworth, N. J.

Do you want more data? Write ◂ or use card on page 197; list E-104

Cut costs with this electronic process control

Savings of approximately $20,000 per year are anticipated at one woolen mill where the "Aquanalyzer," an electronic device for controlling various manufacturing operations, is being utilized.

Employing an electronic circuit which compares the electrical resistance of two process streams, the instrument can be set to operate a relay at any desired resistance differential for controlling an operation. This combined detection-control feature is particularly useful in water solutions, since it can detect as little as 0.01 lb of impurities in 1000 gallons of water. With the use of heat-sensitive detectors, the apparatus may also be used to detect and control temperature changes in fluids within close tolerances.

The woolen mill cited above is using the Aquanalyzer to indicate when woolen pieces being washed in a dolly washer are clean enough to be removed. This is done by setting the instrument to indicate when the water being squeezed from the cloth contains little or no more dissolved solids than the incoming water. This comparison of purity of the water is continuous, and reaction of purity changes is instantaneous. Since the squeezed water is compared with the incoming water, changes in the solids content and temperature of the water supply are automatically balanced out and do not affect the accuracy of the instrument. Thus, control of the cleanliness of the wool cloth is no longer an operator function, and errors in washing judgment are eliminated.

In most installations, hot water consumption is reduced by 50%, and all overtime work in the wash-room is usually eliminated since wash times are considerably reduced. Grease, soap, and alkalinity determinations on the washed cloth are as good as previously obtained.

Here are some other ways the instrument may be used: Control of water purity for reuse; detection of industrial waste pollution of a water supply; safeguarding of distilled or demineralized water supplies; detection and control of foaming, priming, and carryover in boilers and stills; detection of industrial waste discharges into streams for water pollution abatement agencies; preparation of chemical solutions.

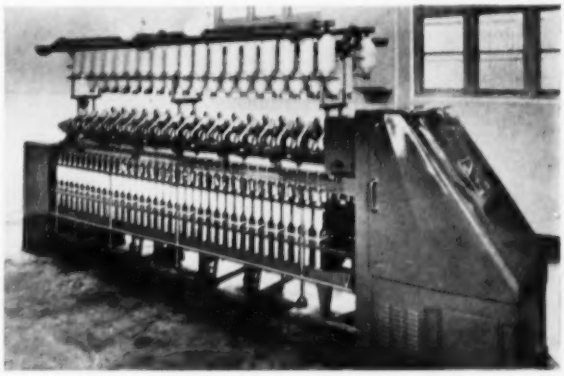
Control Circuits, Inc., 103 Court St., Middletown, Conn.

Do you want more data? Write ◂ or use card on page 197; list E-105

Disk-driven spindles on frame from Holland

A new machine manufactured in Holland for spinning cotton yarns more smoothly and efficiently is currently available for export to the United States. Its narrow width (slightly over 30 inches) makes it possible to install more machines in a given area.

Spindles on the new unit, manufactured under the trade name of "Spinmaster," are driven by light-alloy interchangeable disks. The special disks are accurately balanced to eliminate irregular or noisy operation. As an additional aid to commercial spinning operations, the Spinmaster's unique design prevents dust deposits by allowing blow-off air to circulate freely over the machine.



Permitting a winding-off speed of 1100 to 1300 yards per minute, the Spinmaster's drive mechanism is easily accessible for lubrication. Needle bearings also help eliminate conventional lubrication problems and prevent the yarns from becoming soiled by grease or oil. Even when the cylinder block is in a slanting position, the self-aligned bearings assure constant and uniform operation.

Netherlands Trade Commission, 551 Fifth Avenue, New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 197; list E-106

Cots, roll covering material prevent static build-up

A textile cot or roll covering for fiber spinning that eliminates static at the source is available.

The cot, designated EW661, is made of a special rubber compound that does not permit static building. Additionally, the cot remains hard and dry despite heat and humidity, and it resists all known oils.

Dayton Rubber Co., Dayton, Ohio.

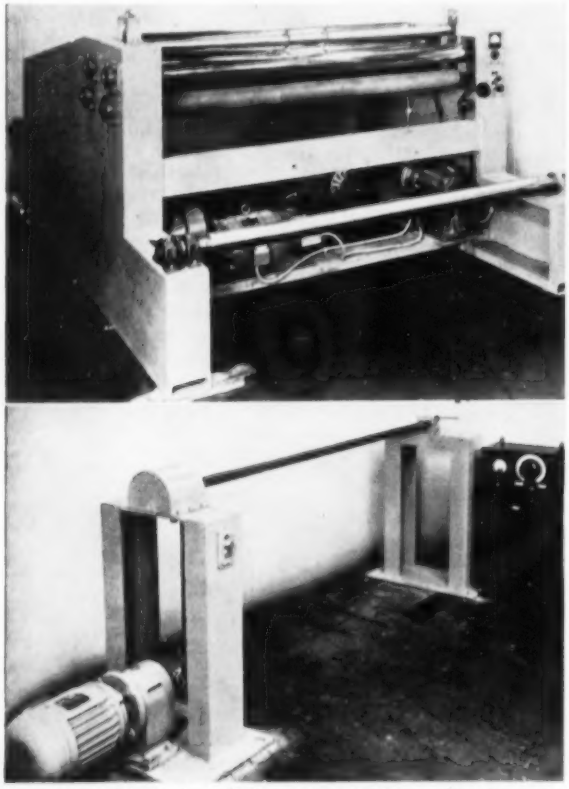
Do you want more data? Write ◆ or use card on page 197; list E-107

Nonwoven producers can save money with this

Recovery of material formerly wasted and considerable increase in efficiency of slitting before binding are advantages to be derived by nonwoven fabrics producers who use winding equipment recently placed on the market.

Installation of this equipment in one mill comprises a single stand Hobbs-Alquist winder; an inspection, slitting, and rewinding machine; and a slitting attachment for a nonwoven forming machine.

The constant tension winder stand is located on the delivery end of the dry range to effect winding of the nonwoven material as it is delivered from the dryer. Passage of these fabrics through the dryer unit is accomplished by a drive within the unit, so that the winder is required only to effect a rolling-up procedure with the desired tension.



Front view of inspecting, slitting, and rewinding machine in upper photo; below is the wind-up unit.

The inspecting, slitting, and rewind machine is a complete unit with necessary drives, having a speed range of 66′ to 200′ per minute. It consists of a let-off arrangement, inspecting board, and slitter, complete with knives for trimming each edge of the fabric, and a constant tension winder with winder stand.

The slitting attachment is applied to the web former where it slits the web before the binding material is put on it. Slitting is carried out without distortion of fiber in the web. That portion of the web which is cut off is returned to the feeding hopper of the web forming equipment for reuse.

Hobbs Mfg. Co., Inc., Worcester, Mass.

Do you want more data? Write ◆ or use card on page 197; list E-108

New line of nonionic surface active agents

A line of nonionic surface active agents recently placed on the market is expected to have a wide range of applications in textile wet processing. Designated Poly-Tergents, four members of the line are being offered initially, with others to follow. All of them are alkyl phenol polyglycol ethers. They are liquids made from petroleum-base raw materials.

Poly-Tergent B-200, although intended primarily for use in nonaqueous systems, is dispersible in water. In low concentrations it is an effective wetting agent for cotton in the 32-75 F temperature range, especially under acid conditions. Though designed as an auxiliary emulsifier with the more hydrophylic types, when used alone it will effectively produce water-in-oil emulsions with various animal and vegetable oils.

B-300 is a wetting agent, detergent, emulsifier, and dispersant. Completely soluble in water up to temperatures of 52-56 C, and in some organic solvents, this product is particularly suited for raw wool scouring, desizing, dyeing, printing, soaping, carbonizing, and certain types of finishing. It may be used alone or with the usual mild alkaline builders for scouring cotton, wool, rayon, and synthetic fibers. Ready rinsability is a characteristic advantage over soap and most synthetic detergents.

G-200 is miscible with most organic solvents, but is only slightly soluble in water. Intended primarily as an emulsifying agent and as an associate emulsifier with the more hydrophylic nonionics, it is of value as an additive "soap" in dry cleaning solvents.

G-300 is completely soluble in water up to 62-70 C, and in a number of organics. Chemically stable, it is a good wetting agent, detergent, and dispersant over a wide range of conditions of pH, temperature, and water hardness. Rinses readily, and gives good wetting characteristics to all types of textile fibers. Suitable for use as an assistant in desizing, bleaching, dyeing, and in after-treatment of prints and dyeing, in wool carbonizing, in kier boiling of cotton, and as a penetrant for many types of finishes.

Olin Mathieson Chemical Corp., Industrial Chemicals Div., Baltimore, Md.

Do you want more data? Write ◆ or use card on page 197; list E-109

Improved shunt magnet for looms

The design features of the #87 AC shunt magnet, for use with the Draper K-A electrical warp stop motion, reduce wear of the component parts and permit easy adjustment and servicing. Materials used throughout are selected for specific properties required in an electrical unit to assure long, trouble-free life.

The magnet coil is wound on a solid one-piece nylon bobbin, and shunt is securely fastened to bobbin head. This positive relation of coil parts permits more accurate

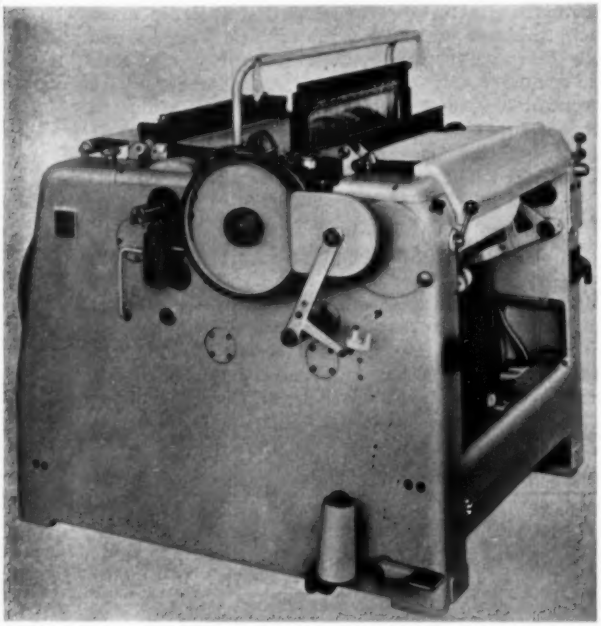
settings. A lock spring holds the coil firmly in place, insures correct and uniform positioning of coils, and simplifies their replacement. Operating failures due to vibration are minimized.

Draper Corp., Hopedale, Mass.

Do you want more data? Write ◆ or use card on page 197; list E-110

Speeds up to 800 ppm with 18" shuttleless loom

The Model P-45 automatic shuttleless jet loom has a working reed space of 18", and attains as many as 800 ppm in weaving cotton yarn. Weaving is carried out di-



rectly from cross-wound bobbins so that the filling preparation work is eliminated. There is no shuttle—the filling is carried by a short, rapid flow of air.

The absence of the shuttle has permitted lowering of the shed and the shortening of the reed motion. These two changes reduce both warp and filling breakage. There are no wood or leather parts in the loom construction, and all rotating parts of the loom are totally enclosed.

Staroba Industrial Research Co., Ltd., 299 Adelaide St. W., Toronto, Ont., Canada.

Do you want more data? Write ◆ or use card on page 197; list E-111

New safety devices for full-fashioned knitters

Two more safety features have been added to the Reading Full-Fashioned Knitting Machine.

The main chain safety switch has been designed to stop the machine if chain buttons become loose or are otherwise out of alignment with one of the chain rows. It can be used on all Reading machines with 14 row main chains using .280" wide buttons.

The non-run safety device has been added to avoid the double dipping of the narrowing machine. The device is an electrical-mechanical safety. It is automatically placed in operating position when both picot bars and instep bars are used for the production of non-run fabric. On machines equipped with lace fingers, the electrical circuit

VALUE

There once was a naive housewife who purchased an unknown brand vacuum cleaner. It was a wonderful deal—she got it for 10% less than the going price of similar models!

Everything was fine until the vacuum needed a new motor. The salesman's company disclaimed responsibility. "After all," he said, "you can't have discount prices and service, too! How do you suppose we can give the discount?"

She couldn't go to the manufacturer; the salesman's "company" had substituted their own trademark—the actual maker of the machine was unknown.

So our housewife was stymied. Oh, she eventually found a new motor. But the trouble she had! And she learned, the hard way, that she would have saved by buying from well known firms—known for their reliability.

Our example was vacuum cleaners, but isn't the same thing true of food, automobiles, houses and dyestuffs?

Not all value is packed in bottles, boxes or drums. Consider the Sandoz value package of basic research, expert technical service and quality product. You'll find it's worth every penny.

SANDOZ, INC., 61-63 Van Dam St., New York 13, N. Y. AL 5-1700.

SANDOZ

SANDOZ

is closed and the safety device is rendered inactive to permit double dipping when the lace fingers are placed in the operating position.

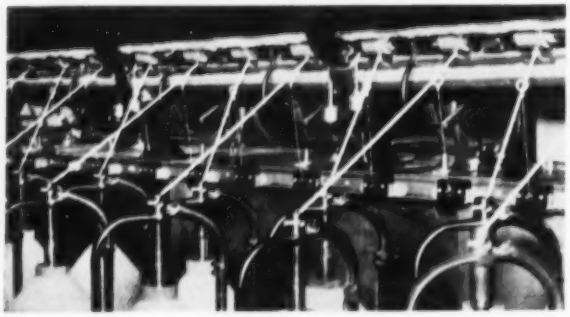
A manual layout lever is also provided so that the safety can be laid out at any time it is necessary to produce all-over mesh or other fabric types that require multiple dips of the narrowing machine.

Textile Machine Works, P. O. Box 1382, Reading, Pa.

Do you want more data? Write ◂ or use card on page 197; list E-112

Improved slubber stop motion

A new model of the Adamstop instantly detects all roving failures on roving frames. Failures such as bobbin



run over, plugged flyer, singling, end breakage and other similar failures are eliminated before they have a chance to cause lapped rolls and doublings.

In cases where an end has come down between a front roll and delivery to the package and has immediately knocked down an additional end, this condition is recognized and stopped by the unit before a condition generally known as a "snowstorm" occurs.

The unit consists of a series of nylon eyelets mounted on two-way switches. If the roving slackens or breaks due to any roving failure, the eyelet falls to either side, operating the switch which immediately stops the frame. As a result, production can be increased by reducing the roving tender labor, better quality of yarn is obtained due to from 10% to 30% fewer ends down in spinning, and it enables increased job assignments to roving tenders by as much as 25 - 100%.

The switches are now mounted on an improved Ancorene precision extruded plastic base bearing the top and bottom inductive bars to which the switches make contact. Switches are spaced so that they are located directly below the centers of the fluted roving feed rolls on the roving frames.

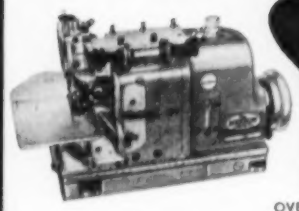
A control box, warning light, plus a builder motion switch and other accessories, complete the unit.

Adams, Inc., 209 East Stone Ave., Greenville, S. C.

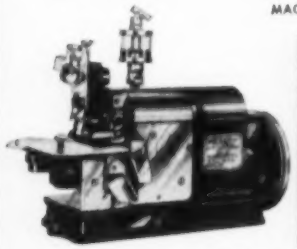
Do you want more data? Write ◂ or use card on page 197; list E-113

Rag cutter takes up to 12.5 tons per hour

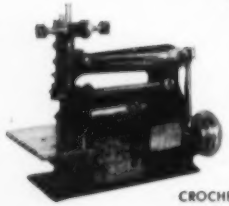
Automatic continuous feeding of rags to a rag cutter at the rate of 15,000 to 25,000 lb per hour is made possible by a combination bale opening and feeding machine supplying the stock to a cutting machine of improved design. At the above cutting rate there is practically no jamming. This is avoided by an improved design of the feed roll,



OVERSTITCH MACHINES



BUTTED SEAMING MACHINES



CROCHET AND SHELL STITCH MACHINES

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. . . SPECIALISTS AT YOUR SERVICE

These men are sewing room *specialists* . . . men equipped by interest, ability and years of experience to advise and assist you on *your* overstitching problems.

They are not just salesmen. They are independent business men, each with an independent business man's incentive and interest in providing the prompt service and close personal attention that assures continuous high volume, high quality production in *your* plant.

ALL THESE MERROW DISTRIBUTORS HAVE

- Stocks of genuine Merrow parts to meet replacement needs and permit quick change-over of machines to other operations.
- Trained, skilled representatives who provide on-the-scene answers to maintenance and adjustment questions . . . assistance on special applications.

Request sample folder showing stitches produced by any of machines shown.

TRADE MARK REG
The MERROW MACHINE COMPANY
2805 LAUREL ST., HARTFORD, CONN., U.S.A.

the enlargement of space between the cutting element and the frame, and other features. The cutter is rugged enough to take an occasional 2" x 4" stick or a whole carpet roll.

Taylor Stiles & Co., Bridge St., Riegelsville, N. J.

Do you want more data? Write ◂ or use card on page 197; list E-114

Durable wrinkle-resistant finish for cottons and rayon

Commercial availability of Eponite 100 Resin, experiments with which were first described at the Fifth Chemical Finishing Conference (TI for February, 1957, p. 163), has been announced.

Recommended for finishing both cotton and rayon fabrics, this product provides dimensional stability and crease resistance in a manner similar to urea and melamine resins and offers two outstanding advantages—non-chlorine retention and durability.

Experience indicates that this resin will keep a cotton garment wrinkle-resistant for its life. After more than a year of wear and over 45 washings, men's shirts treated with the resin retained their initial crease resistance.

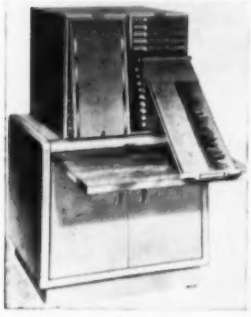
Furthermore, white cotton goods finished with Eponite 100 may be washed, bleached, and ironed without fear of "yellowing" or loss of strength.

Shell Chemical Corp., 50 West 50th St., New York 20, N. Y.

Do you want more data? Write ◂ or use card on page 197; list E-115

Cut machine downtime with this maintenance system

By proper use of Acme Visible Preventive Maintenance Record Systems textile mill machine downtime is reduced—maintenance inspections required by the system reveal the need for minor repairs of equipment before serious trouble develops.



Since accurate scheduling of lubrication and maintenance inspections and rigid adherence to the schedule are essentials of a successful preventive maintenance program, the Acme Visible record equipment—with the hinged pockets and the two cards on each hanger feature—is ideal for follow-up control.

Each machine and motor is listed on an individual card placed in the back of the pocket; in the facing pocket a "history of repairs" record is placed. A "spare part in stock" card is hung on the same hanger as the pocket carrying "history of repairs" card.

Progressive signals on the "history of repairs" cards, always visible, show the inspection schedule on a monthly basis. Various colors designate type of work to be done. When work is completed and entered on record card, signal is advanced to month in which next inspection is due.

Lock-in chain signals, with four windows, each a different color, reveal the week within the month when inspection is to be made. With both month and week signalled, missing semi-monthly inspections or equipment requiring more frequent attention is avoided.

Acme Visible Records, Inc., Crozet, Va.

Do you want more data? Write ◂ or use card on page 197; list E-116

Roller Type tenter clips are NOT new

M&W Roller Clips have set performance standards for 15 years.

M&W No. 11 Tenter Clips in use total more than half a million — giving perfect results wherever installed.

M&W No. 11 Roller Clips have set the production pace — up to 250 yards per minute — for years.

M&W has specialized in engineering, refining and manufacturing Roller Clips since 1940.

M&W Clips have all attributes needed for reduced maintenance cost, efficient operation, cloth protection, long chain life, precise performance.

M&W Clips are engineered for every type of operation, equipment and fabric.

When buying new or replacement tenter chains, remember these facts and invest in a thoroughly tested, tried and true, product.

"There are no weak links in an M & W Tenter Clip Chain"

Send for complete data
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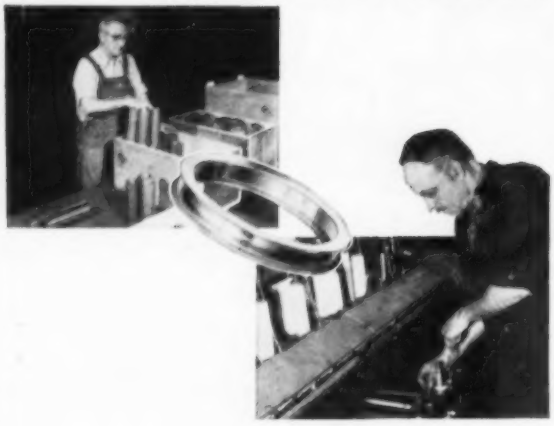
MARSHALL and WILLIAMS CORPORATION
PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.

Our Stock Is Yours!



We keep many standard DIAMOND FINISH ring styles in stock. Our aim is to speed partial shipment to you immediately, and then keep the balance of your order coming along as fast as you need them.

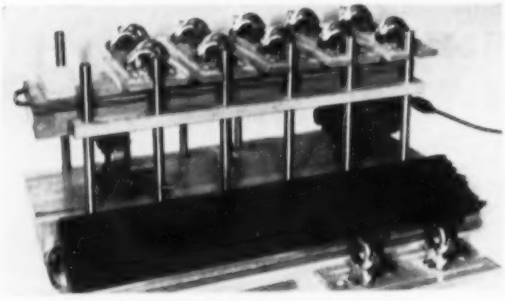
WHITINSVILLE (MASS.) SPINNING RING CO.

DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
For Ala., Ga., & Tenn.: P. C. EVERETT, 369 Meadowbrook Dr. NE, Atlanta

PILLING TESTER



Model CS-53

- Ease of Comparison Data
- Capacity 6 Test Specification
- Simple
- Reproducibility of Results

The Pilling Tester is the same basic design as the unit designed by E. I. DuPont de Nemours & Co., Inc. The following changes have been incorporated to improve the unit; laminated wood replaces the plywood for the nylon brush and sponge boards to prevent warping; rubber covered samples rods and screen door hinges assure more positive fastening of the specimens on sample boards.

The results from this unit are useful for controlling commercial production, for research on processing conditions and for guiding the development of new fabrics. The test will rate pilling, fuzzing, and general appearance of a series of fabrics in the same order as their performance in use.

ASTM Designation: D1375-55T, "Test for Pilling Propensity of Textile Fabrics."

Folders and price upon request

CUSTOM SCIENTIFIC INSTRUMENTS, INC.
541 Devon Street Kearny, N. J.

Indicates and transmits pressure readings

The Model 44 indicating pressure transmitter offers remote control of dry can steam pressure by transmitting the pressure reading to remote controlling instruments. Another use is the control of liquid levels where there are several levels involved, such as on washing machines.

The unit can be used to transmit pressure measurement to a pneumatic multiple recording instrument which will accommodate up to six measurements of temperature, pressure, etc., from selected points in the mill.

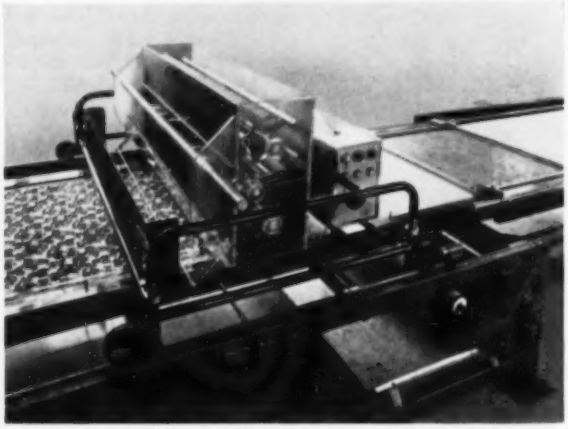
Accurate to plus or minus ½% of the scale range, the transmitter measures pressures of 0-30" of water to 0-6000 psi, transmitting a 3-15 psi air signal to indicating or controlling instruments. To accommodate the various ranges, a choice of pressure elements is offered in spirals, helicals, bellows and diaphrams; element materials are available for corrosive process fluids. A universal mounting bracket provides choice of wall or vertical pipe mounting.

The Foxboro Co., Foxboro, Mass.

Do you want more data? Write ◆ or use card on page 197; list E-117

Flock printing machine offers higher quality and production

The electro-static flocking and electro-static flock recovery in the Saladin Flock Beamer FO-2 result in an upright pile of uniform density providing clear contours and



excellent definition of design. This machine will flock all types of textile fabrics.

Flock falling on non-adhesive areas is automatically returned to the flock reservoir by an electro-static recovery system. This recirculation system also prevents excess flock from gathering on top of previously flocked areas.

The machine provides immediate advantages of increased production and a finer quality of flocked material.

Cosa Corp., 405 Lexington Ave., New York 17, N. Y.

Do you want more data? Write ◆ or use card on page 197; list E-118

Equipment briefs

A combination pneumatic-electronic level controller is available in an explosion-proof model called "Pneutronic." Intended for use in Class 1, Group C and D; and Class 2, Group E, F, and G hazardous locations, the device is used to control the level of liquids or granular solids. Two models are offered: one produces an increase in air output with an increase in measured level; the other, a decrease in air output with an increase in measured level.

Fielden Instrument Division, Robertshaw-Fulton Co., 2920 North 4th St., Philadelphia 33, Pa.

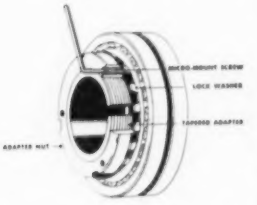
Do you want more data? Write Supplier or use card on page 197; list E-201

Non-melting white greases. Belco white greases will resist moisture and rust and have excellent water resistance and oxidation stability. The multi-purpose greases will not melt when exposed to elevated temperatures.

Bel-Ray Co., Madison, N. J.

Do you want more data? Write Supplier or use card on page 197; list E-202

A line of spherical roller bearing pillow blocks, incorporating a unique mounting feature called Micro-Mount, are seated solidly on shafts quickly and easily. After the bearing is snugged up with the adapter nut, adjustment is completed by turning set screws (located parallel to the bore in the adapter nut) against the locking washer until the bearing, adapter, and shaft form an integral unit. The bearings are recommended for applications in which self-alignment and ease of installation and maintenance are desirable. Dimensions are standardized, making them interchangeable with all other standard units.



Dodge Mfg. Corp., Mishawaka, Ind.

Do you want more data? Write Supplier or use card on page 197; list E-203

A liquid defoamer, Surfynol 104A, gives excellent results in aqueous systems where foaming is a process problem or is undesirable in the end use. Some suggested applications are: textile sizing, starch and protein adhesives, and low-sudsing detergents.

Air Reduction Chemical Co., 150 East 42nd St., New York 17, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-204

A tablet hypochlorinator, which is designed for the continuous generation of chlorine solution from calcium hypochlorite tablets, is used for chlorinating swimming pools, ponds, potable water, etc.

Fischer & Porter Co., 937 Jacksonville Rd., Hatboro, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-205

Batteries for materials handling equipment are available with positive plate ratings of 72 ampere-hours which permits smaller batteries to be used in a given truck without loss of power. The batteries also permit users to better utilize battery power on more sizes of trucks. Work loads of smaller trucks can also be stepped up. The batteries, called TG Exide-Ironclad Giants, are available in finished steel trays in eleven sizes.

Exide Industrial Division, The Electric Storage Battery Co., Box 8109, Philadelphia 1, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-206

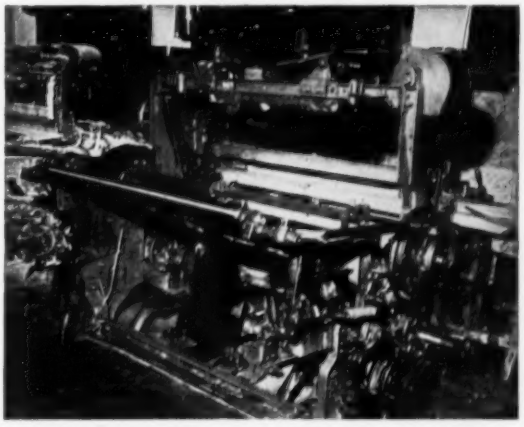
LOOK! LESTER'S LINTGO* LESSENS LOSS!

(DUE TO SECONDS)

*the non-flammable, economical lint-clogged machinery cleaner

LINTGO diluted with cold water is sprayed onto textile machinery.

Then lint, oil and soils are removed by blowing off with compressed air.



LEAVES MACHINERY CLEAN AND LINT-FREE. LINT DOESN'T SWIRL INTO THE AIR.

LINTGO reduces slubs, seconds, and improves quality. It is non-corrosive, odorless, non-flammable, fumeless, non-toxic and inhibits rust. It can and will solve your lint problems quickly, easily, economically and without hazard. Ask for free demonstration today using the handy, postage-paid return card on page 197 or by writing direct to

Lester Laboratories, Inc.

P. O. BOX 4897 ATLANTA 2, GA.

A mist coolant system (previously described in TI for December 1956, p. 183), known as Trico-Mist, now has two valves to permit separate control of coolant and air to be exercised. The valves permit spray adjustment from a very fine invisible mist to a maximum discharge. The coolant can be shut out of the system and the compressed air used for blowing away chips, etc. The mist can be applied to drills, saws, etc., where most needed, and carries away heat faster than liquid flooding systems.

Trico Fuse Mfg. Co., 2948 N. 5th St., Milwaukee 12, Wis.

Do you want more data? Write Supplier or use card on page 197; list E-207

Motion of any type is measured by a mechanically-operated tool. The instrument, called "Visutac," can be used to measure rotating, vibrating, oscillating, or reciprocating motion from a safe distance. Wear is diminished because the instrument never comes in contact with moving parts of the equipment being measured. Can be used in explosive atmospheres without danger to the operator. Made in two models, with respective speed ranges from 500 to 8000, and 1000 to 16,000 rpm, it will measure speeds up to 50,000 rpm by use of multiples.

Boulin Instrument Corp., 10 First St., Pelham, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-208

A tachometer which reads in rpm or fpm registers the result of directly measured rotary and surface speeds divided by directly measured time. The mechanism consists of an accurate revolution counter, a precise timing movement, and an automatic synchronizing system. Models available for readings from 0 to 20,000 rpm or 10,000 fpm. The instrument is accurate within 99.85% of true speeds in excess of 500 rpm.

Boulin Instrument Corp., 10 First St., Pelham, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-209

Two lines of I-beam trolleys with capacities from three through ten tons are available. Called the 'Budgit' "Hi-Cap" trolleys, one line is a push type; the other is hand geared. Both lines of trolleys feature life-lubricated bearings. The wheels are of forged steel (equipped with ball bearings) with crowned treads case hardened to keep tread wear to a minimum. All capacities are easily adjustable to a wide range of I-beam sizes by simple rearrangement of the spacer washers on the cross shaft.

Shaw Box Crane & Hoist Division of Manning, Maxwell & Moore, Inc., Muskegon, Mich.

Do you want more data? Write Supplier or use card on page 197; list E-210

A new type of high tenacity nylon yarn, with improved resistance to degradation from heat and sunlight, is available in 210 denier, 34 filament, bright luster. The yarn is especially suited for application in industrial end uses, such as tarpaulins, as well as in outdoor furniture, children's wading pools, sewing thread, and in military use.

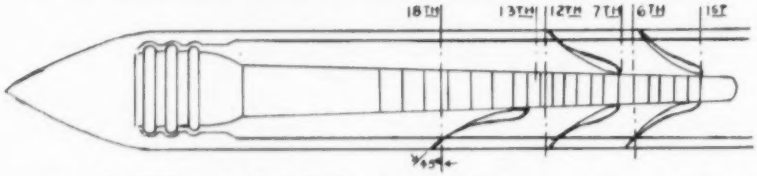
E. I. du Pont de Nemours & Co., Inc., Textile Fibers Dept., Wilmington, Del.

Do you want more data? Write Supplier or use card on page 197; list E-211

A push button lubrication system for lift trucks enables the operator to lubricate a truck in seconds while it is in operation. It uses a pump and metering devices to assure positive and correct lubrication of all bearings. The sys-

BAXTER'S NYLON SHUTTLE SPRING-LINE

A REAL MONEY-SAVING SUBSTITUTE FOR SHUTTLE FUR



The first two loops of BAXTER'S NYLON SHUTTLE SPRING-LINE are inserted in the shuttle wall at a point opposite the 6th ring on the quill. The holes for the loops are drilled in opposite shuttle walls 1/4" from the top and bottom at an angle of 45 degrees. Let these loops extend to the first ring. The second set is placed opposite the 12th ring with the loops extended to the 7th ring. A single loop is placed at the 18th ring to reach the 13th. Install in keeping with twist.

Vary these suggestions to your ideas and your own special requirements.

AVAILABLE IN TWO PUT-UPS:

4 OUNCE SAMPLE REEL
$4.80 POSTAGE PREPAID

12 OUNCE SAMPLE REEL
$11.84 POSTAGE PREPAID

Basically Du Pont nylon TYNEX (Du Pont Trade-mark), this material available in various diameters and larger put-ups. Write for free literature.

THE BAXTER CORPORATION, JACQUARD DIVISION

224 21st AVE. P. O. BOX 1160 PATERSON, NEW JERSEY

tem holds enough lubricant to service the system through 175 cycles before refilling. On gasoline-powered trucks the pump power is taken from the intake manifold of the engine. On battery-powered trucks the system is actuated manually by a plunger.

Lincoln Engineering Co., 4010 Goodfellow Blvd., St Louis 20, Mo.

Do you want more data? Write Supplier or use card on page 197; list E-212

A portable elevating truck enables one man to do the work of three by lifting loads up to 1500 lb and allowing the operator to propel the loaded vehicle manually to the material's destination. Available with pedal-operated or battery-powered lift mechanism, straddle or nonstraddle design, with fork, platform, or drum stacker hoisting device, the truck is maneuverable in small spaces and can be operated on floors too weak to support heavier trucks safely.

The American Pulley Co., 4200 Wissahickon Ave., Philadelphia 29, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-213

Precision plate cams of any configuration—accurate to plus or minus .005" on the steepest rises and falls and plus or minus .001" on dwells on a 7" radius — are cut by a Mentor, Ohio, firm. Also, cams may be duplicated with less than .001" error.

Trofimov Industries, Precision Cam Div., 39424 Lake Shore Blvd., Mentor, Ohio.

Do you want more data? Write Supplier or use card on page 197; list E-214

An automatic plant communications systems which can be purchased outright, is separated from outside lines and requires no operator. The system performs satisfactorily in noisy areas (punch presses, etc.), and in operation is identical to the public telephone. Plant size is no obstacle. Any number of connections can be installed in the P-A-X dial system.

Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.

Do you want more data? Write Supplier or use card on page 197; list E-215

New fluorescent lamps with rapid start features are designed to produce more than double the amount of light formerly obtained from a lamp of the same length. Called VHO (very high output), the lamps utilize a special pressure control center to control temperature and pressure, use neon instead of argon to give better reaction to the temperature and pressure conditions encountered in high intensity operation, use the standard T-12 bulb for the effective production and utilization of the ultraviolet radiation within the tube, and employ a patented rapid start system.

Sylvania Electric Products, Inc., Salem, Mass.

Do you want more data? Write Supplier or use card on page 197; list E-216

A portable power drive for pipe threaders is equipped either with an electric motor or 90 psi air motor to speed up threading (up to 4" die stocks) and tapping operations. Other features of the drive include adapters for opening and closing valves, operating hoists and winches, operating tapping machines, operating earth augers, and replacing hand cranking on almost every job.

The Toledo Pipe Threading Machine Co., Toledo 4, Ohio.

Do you want more data? Write Supplier or use card on page 197; list E-217

A line of flexible ductings, wire-reinforced and coated-fabric-covered, is made for industrial ventilation, fume removal, dust and particle collection, and the handling

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Style 20

DOFFING BASKET

For a long-wearing doffing basket to fit the individual requirements of your mill insist on the Lane Style 20. The tough, snag-proof body, built over a strong, resilient frame, gives low-cost, dependable service because of these exclusive Lane features:

- Light, strong frame of special spring steel provides resistance to permanent bending.
- Longitudinal frames are embedded full length in cross-braced shoes of close-grain hard wood.
- Lane duck, woven to exacting requirements is sewn into tough body with completely smooth inside surfaces.
- Specially tanned binding leather and short, tight stitches of long-staple cotton thread for extra wear.

To be SURE of the best,
INSIST ON *LANE Style 20*
Canvas Doffing Basket

Canvas Basket Craftsmen Since 1894

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W. T. Lane & Bros., Inc., Poughkeepsie, New York

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Technical Service Representatives in Principal Cities of U. S. and Canada

of materials that can be transferred by blowing, suction or gravity flow. One item of the line is "Industrial Vac-U-Flex," a tough, lightweight vacuum cleaner hose developed for use in areas requiring hard usage (it will withstand vehicles passing over it or being trampled underfoot by workmen).

Flexible Tubing Corp., Guilford, Conn.

Do you want more data? Write Supplier or use card on page 197; list E-218

Two-way radio communications between a fixed station and trucks, fork lifts, etc., as well as between vehicles, are provided by the Carfone, an industrial mobile FM radio designed to operate on electrically-driven equipment or gasoline-powered equipment. Speakers can be provided for use in areas of great noise, or for operation in relatively quiet areas.

Radio Corp. of America, Communications Equipment, Camden 2, N. J.

Do you want more data? Write Supplier or use card on page 197; list E-219

An "electronic supervisor" (central control system) automatically switches on or off up to 40 groups of remote operations. The system will follow predetermined program schedules to switch lights on or off, start and stop motors, open and close valves, control heating and air conditioning, and perform scores of similar operations. While the central operation panel permits one to check at a glance the operational status of the remote electrically controlled services, if it becomes necessary to depart from a preset program at any time, the services supervised by the system can be operated manually from the panel or at the equipment itself.

International Business Machines Corp., 590 Madison Ave., New York 22, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-220

A spray cleaning instrument, the Saniseptor, converts the plant's hot water system into a readily-directed medium for cleaning floors, equipment, etc. The unit, equipped with a water hose connection to the hot water supply, a siphon breaker, and solution and water control valves, holds about 15 lb of powdered detergent. With the detergent in the tank, the tank is closed and the hot water is turned on. The water siphons up the detergent and sprays the solution through a nozzle. The solution may be turned off for rinsing with hot water.

Oakite Products, Inc., 19 Rector St., New York, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-221

Coffee "any way you want it" is served instantly from the "Kwik Kafe" dispensers — hot chocolate also. The units, available in two sizes, have capacities ranging from 150 to 450 cups. Designed for maximum sanitation, the vending machines also refrigerate perishables such as cream.

Rudd, Milikian, Inc., Hatboro, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-222

Roof maintenance can now be minimized by using a rot-and-mildew-proof porous sheet of fibrous glass in place of the conventional roofing felt. The sheet, called Perma-Ply, allows the asphalt to seep through so thoroughly that the completed roof is a single solid mass of asphalt reinforced by fibers which will not burn, crack, or deteriorate in any way. The roofs cost no more than do conventional ones.

Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

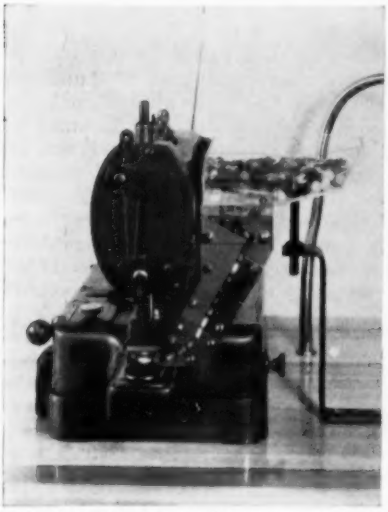
Do you want more data? Write Supplier or use card on page 197; list E-223

Plastic panels featuring embedded aluminum or steel diamond mesh offer semi-transparent protection against

flying particles and liquid spray. They may also be used for protective skylights, windows, etc., or where light and high impact resistance are dual problems. Called Security Junior, the panels can be obtained in standard or in a special highly fire resistant type, in clear, and in five colors: ice blue, pale green, yellow, sky blue, and coral.

Resolite Corp., Zelienople, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-224



A shank button feeding machine utilizes the vibratory motion of the sewing machine and eliminates the need for an independent, motor-operated hopper feed. A simple turn of a screw allows buttons of another size to feed. Color can be changed in the hopper in seconds. There is nothing to get out of order. Anyone can operate the Speed Feed.

Rochester Button Co., 300 State St., Rochester 4, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-225

A stainless steel temperature regulator, developed mainly for use in chemical plants, is designed to withstand the corrosive effects of certain fumes, gases, acids, and chemicals. The regulator, No. 11061-R, is available in sizes from ¼" to 4", and in temperature ranges between 20 F and 455 F. Other applications seen for the regulator are its use in exposed locations, and where ammonia vapors are present.

Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Box 400, Knoxville, Tenn.

Do you want more data? Write Supplier or use card on page 197; list E-226

A neutral dyeing premetalized dye for wool, nylon, and silk—Lanasyn Bordeaux GRL—is especially recommended for use on decorative fabrics. Its crocking properties and lightfastness on wool and nylon are excellent. Color produced is superior under conditions of alkaline milling, and water fastness tests indicate that it meets all requirements for dyeing automotive fabrics.

Sandoz Chemical Works, Inc., 61-63 Van Dam St., New York 13, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-227

A **flooring material** compounded especially for use in high speed hand and power trucking locations is known as "Sternite." Applied in a ¼" layer over concrete to form an extremely hard surface that eliminates all wheel drag, it will not depress and withstands loads of 3000 psi after 48 hours. Dark brown in color, nonporous, lightweight, fire-retardent, wear-resistant, easily applied and feather-edged, it is supplied in 250-lb units ready for mixing.

The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio.

Do you want more data? Write Supplier or use card on page 197; list E-228

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Precision-built Parts for Better Performance ...longer life!

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MICHIGAN ALKALI DIVISION

An improved stabilizer for sodium chlorite bleaching. Depco Bleach Assist XP (for paste) and XD (for powder), serves to control and retard the formation of toxic chlorine gases in the bleaching of synthetic fibers, and to inhibit the corrosive qualities of sodium chlorite. In addition to controlling the gassing of toxic chlorine and preventing corrosion of equipment, the stabilizer imparts improved whiteness to all synthetic fibers in the same bleach bath with no additional processing.

De Paul Chemical Co., Inc., 44-27 Purvis St., Long Island City 1, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-229

Three "Quick Dump" control valves for operation on double action cylinders using either gases or liquids are four-way, five-port models. One valve utilizes an electric impulse to open one valve section and close the other. No current is needed to hold the valve open, which is opposed to another valve of the same line which requires current to hold the valve position. The latter "fails safe" by returning to normal position when the current is removed. The third, a hand lever valve, is designed for mounting on bench, machine, or production line station, and requires only finger tip touch and a short movement to open or close.

Humphrey Products Div., General Gas Light Co., Kalamazoo, Mich.

Do you want more data? Write Supplier or use card on page 197; list E-230

A steam trap which discharges steam-hot condensate is now available. Called the Monovalve F & T steam trap, it has a continuous discharge feature, is able to discharge air, cold condensate, hot condensate, and to serve as a check valve. The unit contains built-in strainer, float, and a bimetallic element. The trap is also self-draining and freeze-proof.

Velan Valve Corp., 37 South River St., Plattsburg, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-231

A liquid level sensor, reliable yet simplified, uses a newly-developed ultrasonic probe. Applications are found in airborne systems and in virtually all process applications involving liquids and their control. The unit responds instantaneously rather than in 2 or 3 seconds, and is entirely safe when used to gauge hazardous explosive liquids. No temperature correction circuits are required nor are any adjustments needed to compensate for any variables whatsoever.

Acoustica Associates, Inc., Glenwood Landing, L. I., N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-232

The constant level electro oiler eliminates any variation in drop feeding since the oil which feeds the sight feed valve is always at the same level—maintained in the base of the reservoir. The unit can be supplied with single or multiple sight feed valves for individual flow to each bearing. Up to 24 sight feed valves can be separately adjusted and settings retained by means of a friction screw. Drop feeding of oil to widely separated bearings is controlled and observed from one central point. The solenoid valve is usually wired across the line (can also be energized by a switch or timer) of the driving motor, starting and stopping with the motor providing automatic operation.

Oil-Rite Corp., 2388 Waldo Blvd., Manitowoc, Wis.

Do you want more data? Write Supplier or use card on page 197; list E-233

An all-electric brake for use on any a-c motor from ¼ hp to 250 hp and up is now available. Known as Selenibrake, it can repeat its stopping cycle tens of thousands

of times without variation in braking torque. Recommended for all types of equipment where fast, frequent, and uniform stops are required. The braking torque can be adjusted over a wide range to meet the application's requirement without ordering a specific type—can be applied to any motor starter at any time. Cramped motor space is no problem; and the unit can be applied to single-phase or three-phase installations.

Selenibrake Div., American Rectifier Corp., 95 Lafayette St., New York 13, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-234

Aluminum in staple form is now available to fabric and yarn manufacturers. The fiber has been field-tested in such fabrics as women's dresses and suits, draperies, upholstery, blankets, domestic linens, carpets, and men's sport coats. The yarn is neutral in temperature, and because it is coated with plastics it is soft and pliable. It has the fineness and crimp to enable it to blend with cotton, wool, and synthetics in any proportion. Available in widths as narrow as 1/200".

Reynolds Metals Co., 3rd and Grace Streets, Richmond 18, Va.

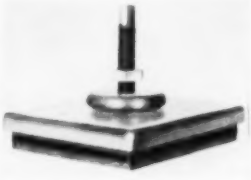
Do you want more data? Write Supplier or use card on page 197; list E-235

Higher twist Fortisan-36 yarn. Mounting trade interest in industrial woven fabrics, scrim applications, and mechanical rubber goods uses has prompted the production of Fortisan-36 in 3 turns Z-twist yarns for 300 and 800 deniers, and 2½ turns Z-twist for 1600 denier. Fortisan-36, a rayon yarn, combines high strength, low stretch, and dimensional stability.

Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-236

A self-leveling machinery mount, called the Level-Rite, consists of an all-steel base unit with leveling screw and leveling plate combined with a special vibration-dampener pad. The mount is designed in seven models with loading ranges from 800 to 7500 lb per unit. One unit is required for each machine leg or mounting point. No bolts, lag screws, or cement are needed. The dampener pad absorbs up to 80% of transmitted vibration.



The Felters Co., Unisorb Div., Boston, Mass.

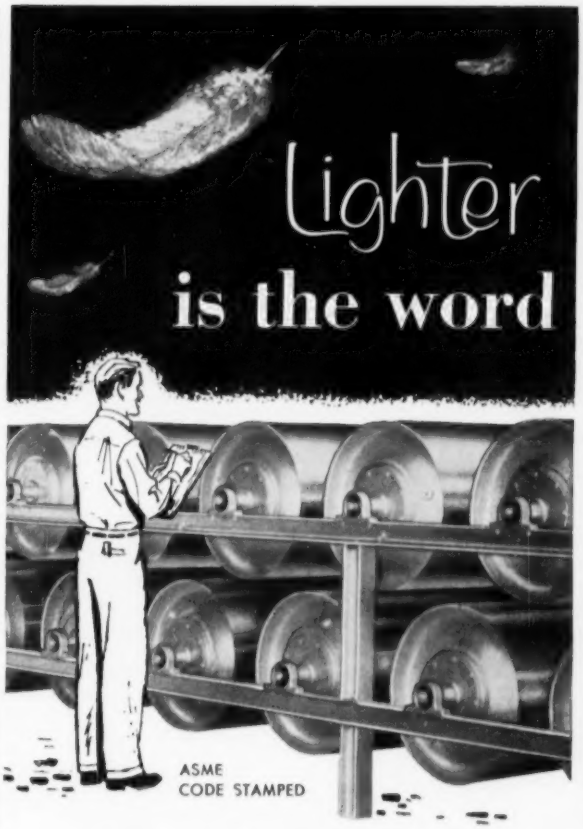
Do you want more data? Write Supplier or use card on page 197; list E-237

A nonionic-anionic surfactant—Carbanone A—which combines the best features of the nonionic and anionic classes of detergents, exhibits the solubility, detergent, wetting, and dispersing properties of soaps, while maintaining the high stability to acids, alkalis, and hard water salts characteristic of the nonionic ethers. Recommended for all scouring and wetting applications on cottons and synthetics, particularly where hot acid or alkaline conditions prevail.

Hart Products Corp., 1440 Broadway, New York, N. Y.

Do you want more data? Write Supplier or use card on page 197; list E-238

A shipping stencil, coated with carbon on one side to permit typing or hand writing with business forms, is called the "Carbon-Cote" Tab-On Stencil. Tabbed over the "Ship-To" area of the order-invoice or bill-of-lading form, it is prepared as a by-product of the forms writing, and then used to address labels, tags, or cartons. No



There's no point in pulling extra weight in old flat heads, now that the new Sims Stainless Steel 75 psi reverse dished head Dry Cans* are available They aren't featherweights, true . . . but they're *lighter . . . easier on the bearings . . . require much less horsepower and space.* Bearings, drive chains and belts give longer, smoother performance with less costly down time, since the lighter the load, the longer they last. These new Sims Dry Cans give uniform transmission of heat and efficiently eliminate steam condensate. Furnished Teflon-coated if desired.

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Sims METAL WORKS

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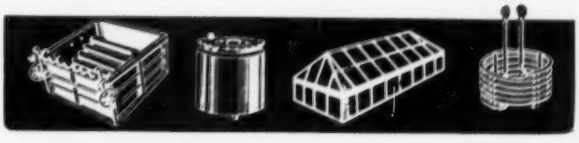
*PATENT PENDING

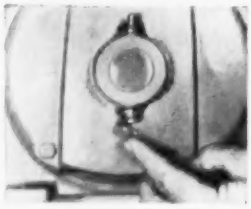


separate carbon sheet is needed between the stencil and the first copy of the form.

Weber Marking Systems, Div. of Weber Addressing Machine Co., Mount Prospect, Ill.

Do you want more data? Write Supplier or use card on page 197; list E-239

A relief-type lubrication fitting is now available for use on antifriction bearings in motors, machinery, pillow blocks, or any ball or roller bearing housing equipped with conventional relief plugs. Known as the RT fitting, it features a "flip-open" cap that aids in cutting lubrication time as much as 80%. The cap snaps open or shut with a flip of the finger; swivels to any position so that it is easy to reach.



Keystone Lubricating Co., 3100 North 21st St., Philadelphia 32, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-240

An LP-gas conversion kit which bears Underwriters' Laboratories listing for "approval by report" of a field installation, is available for installation on lift trucks. The basic components of the kit are a fuel tank, a fuel filter, LP-gas converter-regulator, carburetor, solenoid safety shut-off valve, static pressure relief valve, and the hoses and connections necessary for installation.

The Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa.

Do you want more data? Write Supplier or use card on page 197; list E-241

Drawn cup roller bearings, for installations requiring high capacities in minimum space, are compact and light, and are designed for applications demanding precision, minimum cross section, high speed endurance, or long pre-greased life. They may be mounted so that a hardened and ground steel shaft serves as an inner race, facilitating the use of larger and stiffer shafts. Inner races are available for use with soft shafts. The bearing is installed by a press fit without snap rings or shoulders.

The Torrington Co., Torrington, Conn.

Do you want more data? Write Supplier or use card on page 197; list E-242

New books

The third edition of *Textile Terms and Definitions* contains 111 pages and 1000 definitions used by the textile technologist as well as the textile distributor. Available from The Textile Institute, 10 Blackfriars St., Manchester 3, England. Price: 12s 6d ($1.75).

The third printing of *Fabric Defects* has been completed. This book describes case histories of imperfections in woven cotton and rayon fabrics. Copies may be obtained from the author, J. B. Goldberg, 11 West 42nd St., New York 36, N. Y. Price: $6.00.

Two textbooks, *Cotton Carding* and *Cotton Drawing and Roving*, have been revised and brought up to date. The books discuss the subjects in the light of the latest technological advances. Copies available from the author, Gilbert R. Merrill, 364 Varnum Ave., Lowell, Mass. Price: $2.50 and $3.00.

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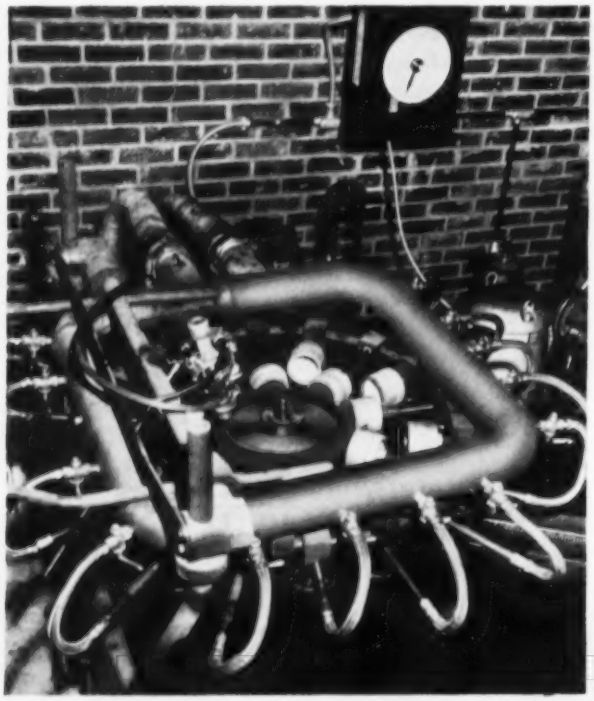

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Jungle Painter

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Produced by the Callaway SAMPLE & RESEARCH SLASHER

A Small Versatile Slasher
Particularly Designed for
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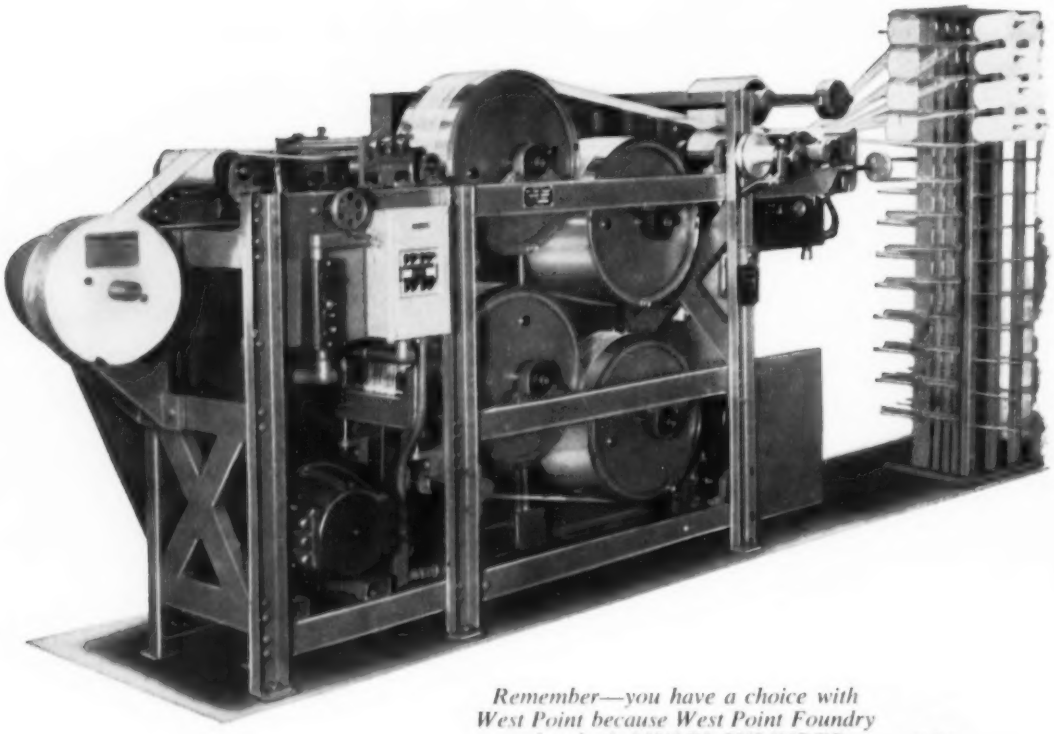
and RESEARCH

This new all-electric Callaway Slasher is a complete and efficient slashing unit designed particularly to fit the slashing requirements of mills which must prepare a lot of samples. It is also ideally suited for research, testing and pilot plant operations.

Using a minimum amount of yarn—cotton, synthetic, silk, wool or worsted—direct from individual packages, without warping or beaming, this little slasher is proving it can save space and money in slashing samples . . . Full-width samples without tying up a production slasher—and from less yarn.

From the stainless steel size box through the four 8″ face electrically-heated drying cylinders to the head end, essential controls and adjustments are provided for all phases of operation. Speed can be regulated from five to forty yards per minute.

At reasonable initial cost and low operating expense, this new, versatile Slasher answers many small-run slashing problems.



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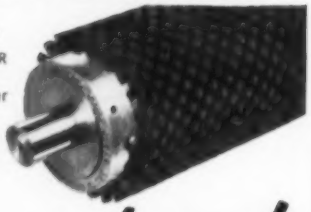

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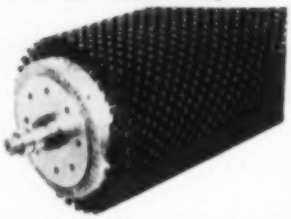

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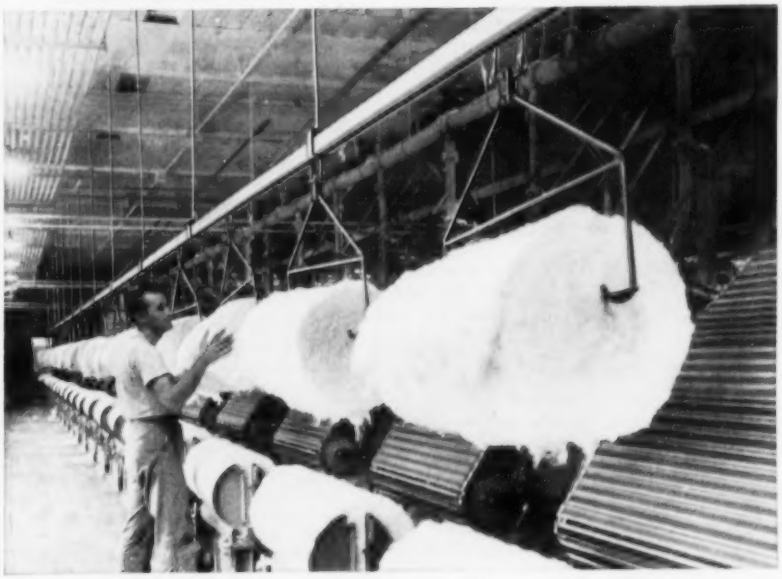

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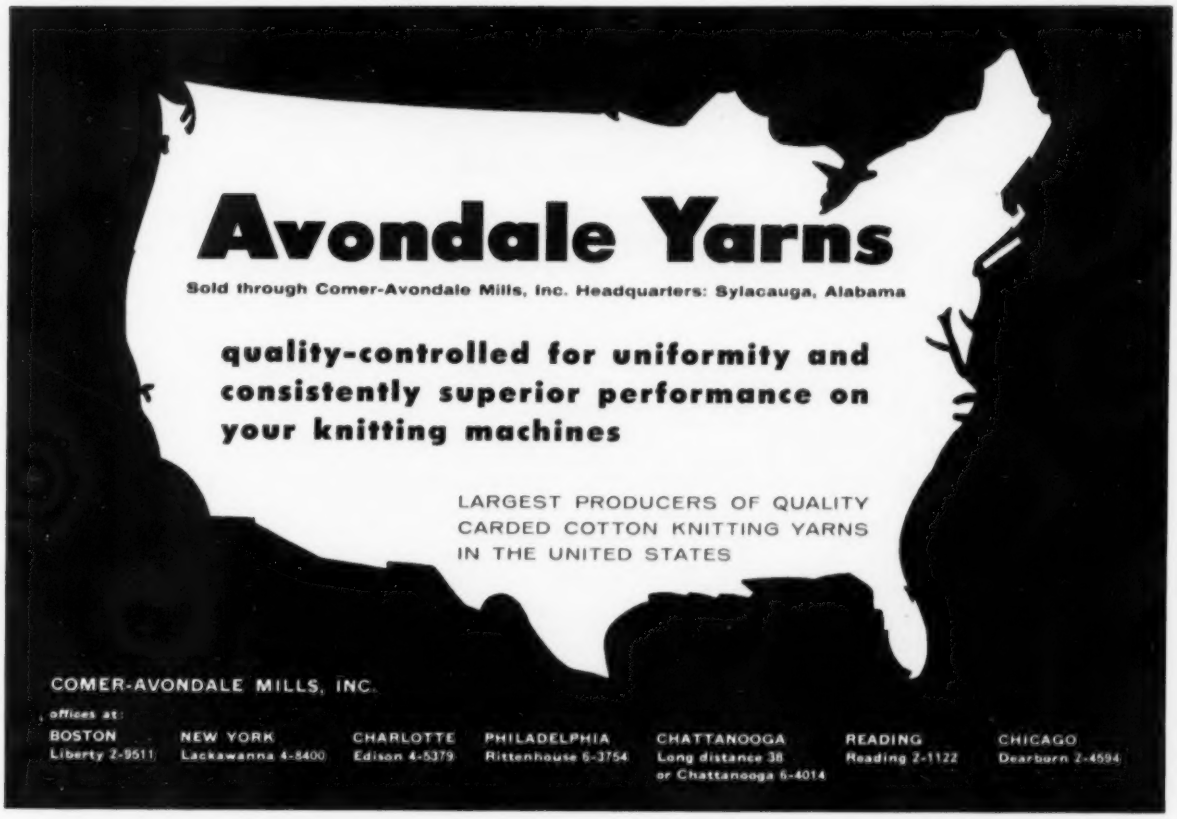
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R-228 THE RANDOM WEB PROCESS — Describes the Rando-Webber and Rando-Feeder, origin and development. Bulletin 104. Curlator Corp., Textile Div., 501 W. Commercial St., Rochester, N. Y.

R-229 QUICKCLEAN TEXTILE MOTOR—Details on totally enclosed fan cooled lint-free motor. Allis-Chalmers Mfg. Co., 1126 So. 70th St., Milwaukee, Wis.

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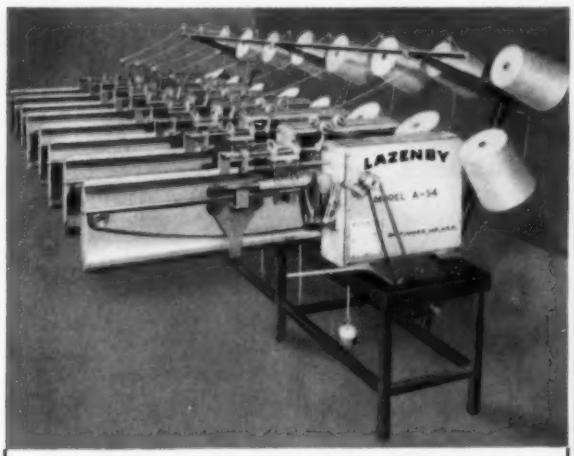

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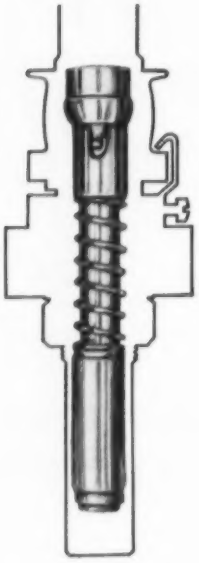

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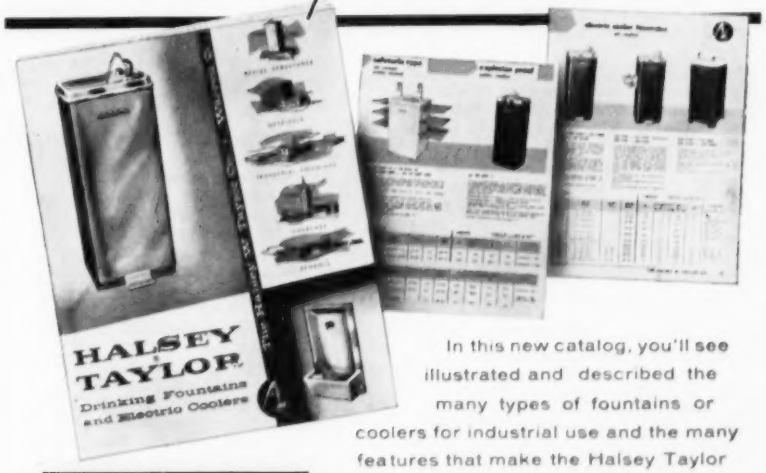

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R-866 STORAGE WATER HEATING — Bulletin No. 923 on hot water heating to stretch boiler capacity. Fred H. Schaub Engineering Co., 2110 South Marshall Blvd., Chicago 23, Ill.

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R-868 RIDGE TOOL PRICES — Capacities and weights included along with pictures. Ridge Tool Co., Elyria, Ohio.

R-869 STAINLESS STEEL FABRICATION — Information on ventilating and drying, slasher exhaust, and materials handling in stainless. Sims Metal Works, West Point, Ga.

R-870 "AIR-PROCESSING" — How, where it can be used and requirements for a successful system. J. O. Ross Engineering Corp., 444 Madison Ave., New York 22, N. Y.

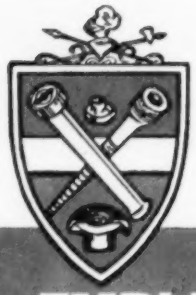
R-871 COLOR CONDITIONING — How to put color to work for you. E. I. Du Pont De Nemours & Co., Inc., Finishes Div., Wilmington, Del.

R-872 METAL CONVEYOR BELTS — Illustrates entire range of manufacture. Ashworth Bros., Inc., Metal Products Div., Fall River, Mass.

R-873 RIHCO HUMIDIFIERS AND COOLING SYSTEMS—Describes new atomizers to lessen air consumption in evaporative cooling systems. Ald-Rich Machine Works, P. O. Box 750, Atlanta, Ga.

R-874 DYNAC BRAKE MOTORS — Electrical braking of a-c motors-roving, spinning, knitting. Westing-House Electric Corp., Pittsburgh, Pa.

R-875 TEXTILE APPLICATIONS FOR "SCOTCH" TAPE — Some good ideas on using "Scotch." Minnesota Mining & Mfg. Co., St. Paul 6, Minn.



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For Spools and Bobbins

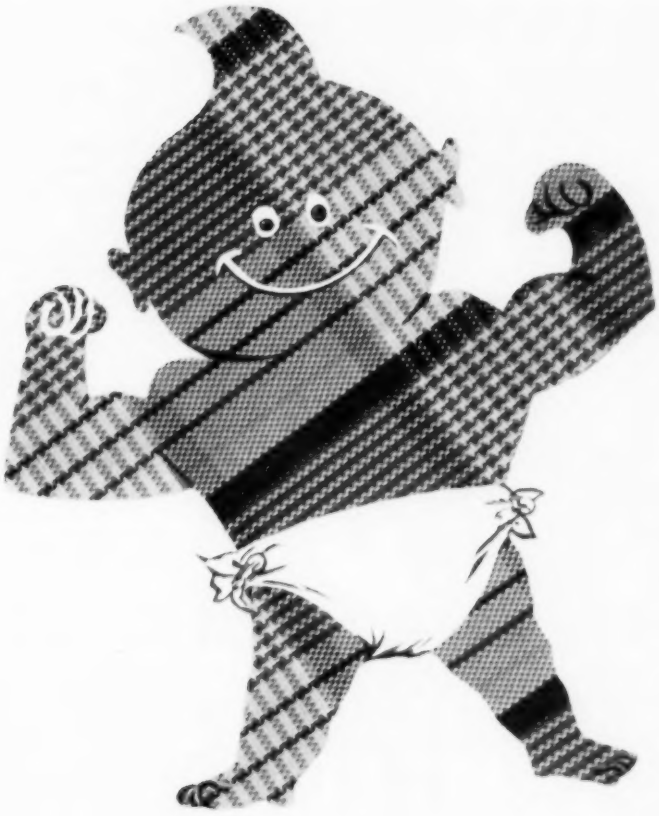
Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson where you order metal shields regardless of when you buy spools and bobbins.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.



I used to be a 7.2 pound weakling-- Wicaloid changed that fast !

Yes, sir, the big board quoted me at 7.2 . . . upholstery production costs ran high and profits ran barely black. I called for a miracle and Wica came through. Heavy sley gave way to a light application of Wicaloid. Production simplified, costs down, profit up!

Is "your baby" vacillating on the market? Ol' Doc Wica has a formula to cut costs and speed sales growth where you'd least expect the need for latex.

Wica

WICA CHEMICALS, INCORPORATED

OLD CONCORD ROAD • CHARLOTTE, NORTH CAROLINA

synthetic organic chemicals • textile specialties

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SPECTRUM ACCURACY

For further information use Handy Return Card, Page 197

What the TEXTILE MILLS are doing

(Continued from page 50)

has been purchased by the textile division of **U. S. Rubber Co.** The plant was owned by American & Efird Mills, Inc. The purchasing firm plans to use the building to expand its textile operations.

The Graniteville (S. C.) Co. is readying a new machine (developed by Graniteville) to assist in the manufacture of coated nylon fabrics in widths up to 72". Some of the fabrics will be triple-layer insulating clothing goods on which aluminum will be the primary insulating agent. The machine will assist in exercising dimensional control of the fabrics as they are coated, calendered, and heat treated.

The real estate and buildings of Greenwich Printing & Dyeing Co., East Greenwich, R. I., are for sale. The machinery is being moved to New Bedford, Mass., where it will be consolidated with that of Lancashire Textile Processing Co. Both firms are owned by **Botany Mills, Inc.**

Plans are being made to double the output of women's hosiery at **Hudson Hosiery Co.,** Charlotte, N. C.

A new plant is soon to be opened in Ruby, S. C., under the name of **Jewel City Hosiery Mill.** Murray Welsh, manager of Chesterfield (S. C.) Hosiery Mill, will also manage the new plant. The building to be used comprises some 22,700 sq ft.

The 450 employees of **Manchester (N. H.) Hosiery Mills** (80% of whom are women) are being given free dancing lessons. The lessons are not designed to test the hosiery which the company manufactures, but are being paid for by the company in a bona fide attempt to give the employees a chance to improve their dancing. The lessons sprang from a dancing exhibition two employees gave at last year's Christmas party. The exhibition aroused so much interest that the firm engaged Dick Champagne, a dancing school operator from Boston, to conduct dancing classes. The enormous turnout at the first two sessions forced the class to be divided to permit two one-hour sessions each week for each section.

Dan River Mills, Inc., will shut down its plants the week beginning August 5 for the traditional summer vacation period. In prior years the vacation has generally coincided with the week of July 4 holiday. In announcing the change, it was pointed out that the July 4 vacation shutdown had frequently inconvenienced employees and interfered with vacation arrangements largely because so many employees throughout the southern textile industry, and in other industries, were on vacation at the same time. It was also noted that, with the vacation period scheduled to fall later in the summer, the company could render better service to some of its customers who normally complete their seasons toward the end of July. Early notice of the August vacation shutdown was given so that employees would have plenty of time to make vacation plans. * * * For the first time in Dan River's long history, and as a special recognition of the company's 75th anniversary in 1957, college scholarships are to be made available for employees and children of employees, beginning

GREATER
Productive Efficiency
GIVES YOU HIGHER DYEING PROFITS

The recent trend toward larger dye batches makes GASTON COUNTY machines the natural choice since FLEXIBILITY OF DESIGN is one of the outstanding features of this equipment. All machines are available for conventional or high temperature high pressure dyeing (above 212° F.)

GASTON COUNTY Package Dyeing Machines are built in single and multiple kier arrangements to suit individual production requirements. Interchangeable package carriers make it possible to dye BARBER-COLMAN CHEESES, 1⅛" tubes or springs, ⅝" tubes, cakes, muffs or any special sizes or types of dye tubes. Write for illustrated folder.

GASTON COUNTY DYEING MACHINE CO.

Pioneers In Automatically Controlled Dyeing Machinery

STANLEY, N. C., U. S. A.

Gaston County Dyeing Machine Co.
Terminal Bldg., 68 Hudson St.
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The Rudel Machinery Co., Ltd.
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Through the **Chem-nyle** Process

NOW... FILAMENT NYLON BECOMES A FASHION FIBER

As a functional fiber, nylon's superiority is beyond question. Its great strength, durability, resilience . . . coupled with its easy care have made it a major factor in the textile industry. Yet, nylon's applications in the upper reaches of fashion have been limited by one inherent weakness: "either or" dyeability.

What happens is that under conventional dyeing methods nylon achieves good color uniformity, but at the sacrifice of colorfastness. And conversely, it achieves high fastness, but at the expense of color uniformity. Now Chemstrand research breaks this deadlock with the Chem-nyle Process . . . *a new dyeing technique that brings to continuous filament nylon excellent color uniformity without sacrificing fastness.* At one stroke, the whole color picture for nylon changes . . . going from plain to brilliant colors, from a narrow to a broad color spectrum.

Through this new dyeing method, filament nylon takes on a dyeability worthy of its other properties. Now, in addition to its great reputation as a functional fiber, *filament nylon also becomes a great fashion fiber!*

Think of what this means to you! It means the most imaginative coloring and styling effects can be freely and safely expressed in nylon. It means exciting new fabric constructions, completely new color ranges. Goods dyed by the Chem-nyle Process will have a softer, fuller hand. For the first time in its history, nylon filament yarn will take on new glamour, new drama . . . new sales appeal! Now shade brilliance, so important in stimulating sales, will be offered to the public in colors never before seen in nylon . . . colors free of streaks, bars, flashes . . . colors fast to washing!

Commercial dyers have been quick to see and seize the tremendous potential offered by the Chem-nyle Process. Now the challenge is squarely up to the designers and mills to come up with the new fabric constructions, the fresh colorings made possible by this great new advance in filament nylon dyeing!

CHEMSTRAND® NYLON

THE CHEMSTRAND CORPORATION • GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1 • DISTRICT SALES OFFICES: 3¼ Overwood Road, Akron, Ohio; 4 Pearl Street, Dedham, Mass.; 222 South Church Street, Charlotte, N.C. • PLANTS: CHEMSTRAND® NYLON—Pensacola, Fla.; ACRILAN® ACRYLIC FIBER—Decatur, Ala.

What the TEXTILE MILLS are doing

this year. Riverdan Benevolent Fund will offer assistance in the form of scholarships worth $750,000. Four scholarships will be made available in 1957 and thereafter the number to be awarded will be decided by Riverdan's Board of Trustees on a year-to-year basis. Selections will be made by a special committee, with the general manager of Riverdan as chairman. Two members from the Dan River organization and a local educator will complete the committee; winners will be chosen on the basis of scholarship record, leadership qualities, character and financial need. Scholarships will be renewed automatically provided the student maintains passing grades in all subjects, ranks in the top 50% of his class, and meets the personal standards required by the college. Winners will select the college and course of study of their choice. Eligibility will be limited to employees of Dan River Mills and Riverdan with two or more years service, the sons and daughters of employees having three or more years service, and the sons and daughters of deceased employees who at the time of death had three or more years service.

P. and S. Processing Company, Inc., Brooklyn, N. Y., commission printers since 1937, are currently moving their plant equipment to 176 E. 7th Street, Paterson, N. J. Richard Lesser, secretary, stated that management plans to continue its roller printing operations on vinyl film and on all fabrics. Plant equipment includes five multi-color printing machines and curing facilities.

A subsidiary of Dominion Textile Co., Ltd., **The Montreal Cottons, Ltd.,** is building a new plant in Valleyfield, Quebec, for the manufacture of cotton knitting and weaving yarns. The plant is to cost in the vicinity of $5,000,000.

A successor to Murgola Knitting Mills, **Mur-Lon Knitting Mills, Inc.,** has been formed on 101st Ave. (street number: 110 to 116) in Richmond Hills, N. Y.

A. & M. Karagheusian, Inc., manufacturers of Gulistan Carpet, has purchased the 240,000 sq ft factory and 140 acres of land formerly owned by Amerotron Corp. at Aberdeen, N. C. Karagheusian operates plants at Freehold, N. J., Roselle Park, N. J., and Albany, Ga. All of these facilities will be continued in addition to the new plant in North Carolina. The velvet weaving department at Freehold, as well as a portion of yarn manufacturing equipment from Roselle Park, will be moved to the new plant. Both moves are to be gradual and it is estimated that it will take almost a year to complete them and install the new equipment that has been purchased. The move from Freehold is being done to permit an expansion of the velvet weaving activities; the Freehold space is needed for improved Axminster and Jacquard production. The moving of the yarn manufacturing from Roselle Park was made necessary in order to provide more warehousing space at Roselle for raw wools—rented warehouse space is now being used to store large quantities of raw material. Also spinning operations at Aberdeen will be able to supply yarns for the Georgia plant which

10,000,000 CARDING POINTS NEED PERFECT GRINDING ROLLS

THE CARD-GRINDING SPECIALISTS
DRONSFIELD'S

TRAVERSE WHEEL GRINDER No 120

SOLID GRINDING ROLL No 112

Sole Agents for Dronsfield's Machinery:—
John Hetherington & Sons, Inc.,
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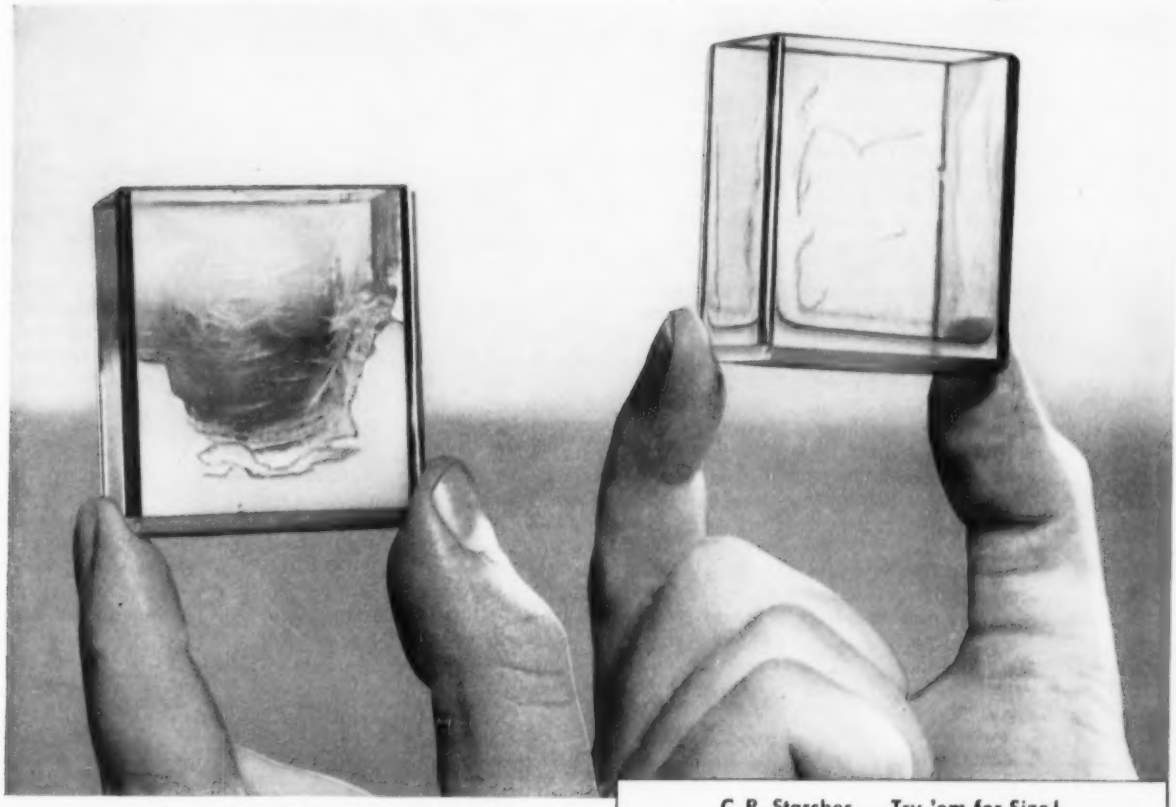
C.P. Starches...Try 'em for Size



Lack of build-up of Ten-O-Film starch in size box is demonstrated by these chemical test boxes containing (left) ordinary starch and (right) Ten-O-Film respectively.

Solving Tough Slashing and Finishing Problems

TEN-O-FILM® Starches

C. P. Starches . . . Try 'em for Size!

	GLOBE							
	Pearl	Gums	Dextrines	EAGLE	TEN-O-FILM	HERCULES	FLEXIBLE	FOXHEAD
WARP SIZING								
General	*			*				
Synthetics	*	*		*	*	*	*	
Worsteds					*			
Carded Cotton	*							
Combed Cotton				*				
Dyed Yarns					*			
Top Beam Yarns					*			
Denims					*			
FINISHING								
Re-starching	*		*	*	*	*	*	*
Printing	*				*			
Back-filling	*							

If you're not already using TEN-O-FILM Starches, it will pay you to investigate the many advantages offered by this new line:

Ready for use 30 minutes after reaching boil . . . needs less softener or plasticizing compound . . . size remains stable at slashing temperatures despite prolonged heating and circulating—does not congeal or "skin over" at below-normal temperatures—can be held for reasonable shutdown period without gelation. Film strength, continuity and flexibility promote maximum production, permit lower weave room humidity!

Technical help in utilizing TEN-O-FILM Starches is available without cost or obligation. Ask also about engineering service. Contact your nearest sales office or write direct to:

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17 Battery Place, New York 4, N. Y.

Corn Products makes these famous starches for the Textile Industry:
EAGLE® · FOXHEAD® · GLOBE® · HERCULES · TEN-O-FILM® · GLOBE® Dextrines

What the TEXTILE MILLS are doing

has no yarn facilities of its own. J. Cecil Beith, now assistant plant manager at Freehold, will be the plant manager at Aberdeen. The timetable for the transfer will extend over a considerable period of time, and Karagheusian hopes to employ most of the affected personnel at Freehold and Roselle Park in various other departments of the two plants. * * * Karagheusian has instituted a program of free Salk polio vaccinations for all employees of the firm who desire them. Primary "shots" will be administered to employees while they are at work some time within the next three months. The second and third shots will follow after the prescribed waiting periods.

Thirteen Georgia textile plants, while amassing a total of 12,284,999 man-hours, enjoyed accident-free operations during 1956. The plants and their individual man-hour totals for 1956 are: Martha Mills Div., **The B. F. Goodrich Co.**, Silvertown—3,923,546; **Dundee Mills, Inc.**, Plant No. 1, Griffin—1,761,059; **Thomaston Mills, Inc.**, Griffin Plant, Griffin—1,315,695; **Callaway Mills Co.**, Unity Plant, LaGrange—1,352,070; **Clarksville Mills** (unit of United Merchants and Manufacturers), Clarksville — 640,178; **Chicopee Mfg. Corp.** at Athens—900,878; **Dundee Mills, Inc.**, Plant No. 3, Griffin—468,182; **Aldora Mill Div.** of General Tire and Rubber Co., Barnesville—518,332; **Dundee Mills, Inc.**, Plant No. 2, Griffin—631,268; **Coats & Clark, Inc.**, Acworth—309,190; **Juliette Milling Co.**, Juliette—243,281; **Bibb Mfg. Co.**, Star Plant, Macon, Ga.—66,749. Following closely with one accident each are: **Canton Cotton Mills**, Canton—1,596,929; and **Exposition Cotton Mills**, Atlanta—2,612,376.

The Eureka plant, Chester, S. C., of **Springs Cotton Mills**, is to be doubled in an expansion move to cost approximately $2,000,000.

The Murphy, N. C., plant of **Van Raalte Co., Inc.**, is being closed "in the interests of economy." The hosiery finishing operations will be conducted at the plant in Athens, Tenn.

According to a recent announcement, the Delaware Rayon Div. of **Mohasco Industries, Inc.**, is closing as soon as the present stock is run out. The plant, at New Castle, Del., is being closed because it is too small and uneconomical in the industry which has "too many big ones in the field." Plans for the disposition of the machinery and the building itself have not been made clear. Some of the employees will be transferred to other jobs within the organization.

Lawrence (Mass.) Duck Co. has been purchased by **Mount Vernon Mills, Inc.**, a recent announcement states. The plant will continue to produce dryer felts. The announcement also states that former treasurer of Lawrence, John M. Barrell, will join Mount Vernon in an executive capacity.

The warping, winding, weaving, dyeing, and finishing equipment of Tingue Mills, Seymour, Conn., has been purchased for use in plants of **Joan Plush Mills**, a Woonsocket, R. I., firm.

The plant properties of Lincoln Mills of Alabama, Huntsville, have

for superior finishes...
complete removal of size is a first essential

RAPIDASE®

UNEQUALLED FOR DE-SIZING AT HIGHEST TEMPERATURES AND AT HIGHEST SPEEDS

In concentrations to meet every requirement ... in liquid or powder form ... RAPIDASE is universally used for cottons and all fabrics containing man-made fibres.

WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

CAN YOUR BOILER TAKE DYEHOUSE SLUGGING?

Here is what we mean!

Chances are if you have to add live steam to your dye becks, your boiler is being KO'd by your dyehouse. Live steam heat-ups not only waste time, but peak steam loads may eventually wreck your boiler. The Schaub Iso-Therm System is a method of heating water (usually using your present equipment) which gives you all the hot water you need for your becks at all times. Our method evens out the load on your boiler and gets off more dyeing every day by eliminating waiting for hot water.

Make your present boiler a "winner" with the SCHAUB Iso-Therm System

How about this — You get all the hot water you want when you need it, but the Iso-Therm System does away with sudden peak steam loads (boiler slugging) completely! HOW? Iso-Therm controls the slugging problem by re-charging cold water into your storage tank only as fast as your boiler's *best* steady steam rate can heat it. Sounds simple and it is. We also prevent overflows, low water, and excess heating.

What this means to you . . .

1. **No time lost waiting for heat-ups.**
2. **No boiler "slugging."**
3. **More dyeing per day.**

Want Proof?

Send for all the facts and technical know-how today!
Bulletin 923 is what you've been looking for.
Drop us a line — we'll do the rest. No obligation.

SCHAUB

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What the TEXTILE MILLS are doing

been purchased by **Huntsville Industrial Associates, Inc.,** which is composed of 30 businessmen of Huntsville. The machinery of the purchased firm will be sold. The buildings are available for lease. A. D. Elliott is president of the purchasing firm.

Machinery and equipment are being purchased by **OK Tricot Mill,** Selinsgrove, Pa., in a $100,000 expansion move.

The plant and site of the former Fairmount Mills near Spartanburg, S. C., have been purchased by **Reeves Bros., Inc.,** for the production of plastic yarns.

According to a recent announcement, **Zephyr Textiles, Ltd.,** Ormstown, Quebec, is to double its carpet yarn production capacity.

Portage (Wis.) Hosiery Co. has announced plans for the erection of a large addition to its mill, with the new space to be used for floor stock and manufacturing.

Sidney Blumenthal & Co., Inc., 1 Park Ave., New York, N. Y., has been admitted to membership in The Hundred Year Association of that city. The Association is composed of business and educational organizations having a continuous existence for over 100 years in New York.

A central office for **Fieldcrest Mills, Inc.,** Spray, N. C., is to be erected on the south side of Stadium Drive, opposite Morehead Stadium. Contracts already have been let for the construction; the building is to be completed this year. The new office will release some 30,000 sq ft of space in the blanket mill, finishing mill, and central warehouse by removing various office function from those premises.

Screen printing operations at **Gilbertville (Mass.) Mills** are being expanded.

A recent announcement states that plans are being laid for the expansion of production facilities at **Webco Mills, Inc.,** of Burlington, N. C. Also, the announcement stated, an application for a charter for Webco Dyers, Inc., has been entered. The finishing plant would be located on old Alamance Road.

NEW SHELBY PLANT FOR J. W. WOOD ELASTIC WEB CO.

The **J. W. Wood Elastic Web Co.** formally dedicated a new 33,000 sq ft plant at Shelby, N. C., on March 30. The modern, one-story, masonry structure is located just west of Shelby and was built at a cost of approximately $750,000.

Carl F. Libby, executive vice-president, invented the shuttleless loom which will be used for making narrow fabrics in the new plant. The high speed machine operates at speeds up to 2600 picks per minute and is used exclusively by the J. W. Wood Co. for manufacture of elastic webbing. The plant is not expected to reach full production for several months.

Staff photo

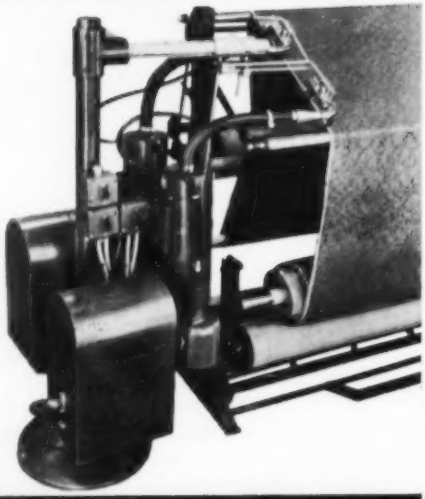
Carl F. Libby (left), executive vice-president and inventor of the loom with which the new plant is to be equipped, and John W. Wood (right), founder of the 52-year-old firm, spoke to the hundreds of visitors attending the dedication ceremony.

The company plans to bring about ten skilled technicians to Shelby to act as a nucleus in operating the plant which is expected to employ about 70 persons from the Shelby area.

With home offices in Stoughton, Mass., this company manufactures and distributes elastic webbing for women's foundation garments, webbing for outerwear and underwear, surgical and athletic elastic webbing, glove webbing, and specialty fabrics.

now—trim selvages faster ...cut production costs!

selvage **TRIM-MASTER**



Cuts inspection time — combines trimming with inspection in one rapid operation. The ultimate in efficient selvage trimming for weaving, dyeing and finishing mills.

Adjustable for width and type of cloth. Cannot damage the fabric. Standard equipment in many leading mills.

For further information call or write:

GINSBERG MACHINE CO., INC.

Sole International Distributors For Textile Trimming and Boarding Machine Co., Reading, Pa.

224 FIFTH AVENUE, NEW YORK 1, N.Y. OREGON 9-1700

SUPPLIERS News

WHAT THEY ARE DOING

William Allen Son's Co., Worcester, Mass., long-time manufacturers of kiers, top dyeing machines, and special bleaching equipment for the textile industry, has been purchased by O. G. Kelley and Co. of Boston. All Allen products, including repair parts formerly manufactured by the Worcester company, will now be made by O. G. Kelley and Co., at their Boston plant.

John G. Frischkorn has been appointed assistant sales manager of the Cleveland Tramrail Division of the **Cleveland Crane & Engineering Co.**

Hoke S. Robinson, of the Robinson Textile Co., has been appointed by **Continental Can Co.** as a sales representative for its line of Conomet metallic yarns. From headquarters at 3133 Maple Drive, N. E., Atlanta 5, Ga., Mr. Robinson will represent Conomet in Ga., Miss., Ala., and Tenn.

Corn Products Refining Co. was recently honored by radio station WAGA, Atlanta, Ga., in a salute on the half-hour program, "Atlanta Boosters." Among the industrial products dramatized were the various starches used in textile making and paper manufacture.

George J. Waterfield has been appointed assistant treasurer of **Curtis & Marble Machine Co.** He will continue with his duties as office manager along with his new position.

George C. Elmes has joined **The Chemstrand Corp.** as a senior textile engineer. With a number of years of supervisory or executive experience in the textile industry, Mr. Elmes was most recently manager and fabrics designer for the Heller Knitting Mills in Woonsocket, R. I.

The appointment of Paul W. Hatch to the sales force of the organic chemicals division, **Dewey and Almy Chemical Co.** division of W. R. Grace & Co., has been announced. As sales representative specializing in sales promotion, Mr. Hatch will represent the firm in its line of emulsions, latices, resins, plasticizers, and dispersing agents for the textile industry, among others.

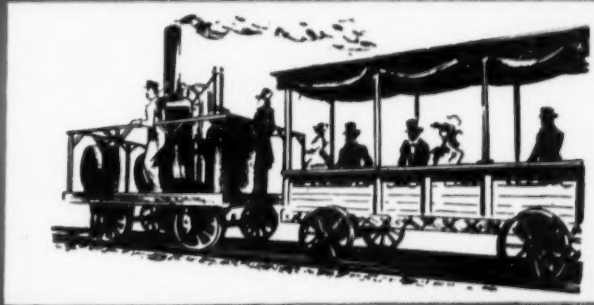
U. S. Patent No. 2,783,609, covering textured yarns has been granted to the textile fibers department of **E. I. du Pont de Nemours & Co., Inc.** The broad claims of the patent encompass a wide range of bulky yarns with characteristics resulting from random loops in the individual filaments or fibers regardless of the method by which the loops have been introduced.

Emery Industries, Inc. announces the formation of a wholly-owned

First

from BALTIMORE

The First trip in a passenger car drawn by steam made in this country was from BALTIMORE to ELLIOT MILLS and return. 13 mi.—57 minutes. Peter Cooper, inventor of the locomotive was in charge.



Courtesy — The Baltimore News-Post

— also from Baltimore . . .

YOUR *First* CHOICE IN BLACKS

- DIRECT
- ACID
- DEVELOPED
- ACETATE
- FORMALDEHYDE
- LOGWOOD

THE HOUSE OF BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from our Baltimore factory.

YOUNG ANILINE WORKS, INC.

OFFICE AND FACTORY: 2701-2733 BOSTON STREET • BALTIMORE 24, MARYLAND

NOT JUST A NEW AIR CONDITIONING UNIT

but the basis for an entirely new system —Carrier Rotaspray Weathermaker!

Again, from Carrier, comes another major advance in air conditioning. Far more than a new unit, the Carrier high-velocity Rotaspray Weathermaker* introduces a revolutionary new system for humidifying, dehumidifying, air cleaning and precise control of temperature and humidity.

Saturation and control of air at the higher velocity used in this major development represent a long sought-for engineering achievement. Field-tested for more than a year, the system offers proved advantages to new and existing mills. For example:

Lower construction costs—substantially lower than conventional systems because need for an apparatus tower is eliminated. The new Rotaspray Weathermaker is small, compact, light. Can be hung from the ceiling, put outside on the roof or suspended outside on the wall.

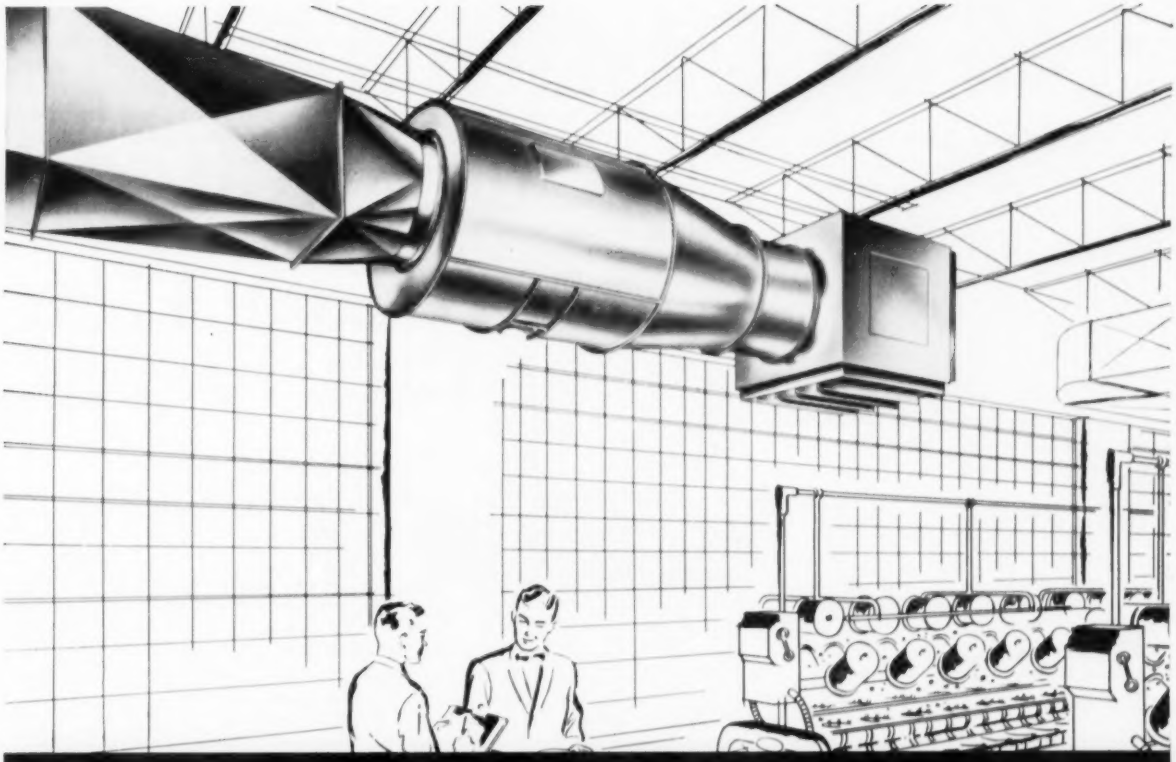
Lower maintenance costs—substantially lower than conventional systems. The new Rotaspray Weathermaker, equipped with "Cant-Clog" nozzles, is self-cleaning. Needs no air filters. Requires no recirculating pumps. Uses a centrally located water make-up tank and lint strainer and a specially designed axial-flow fan.

Lower operating weight, less space—substantially lighter and more compact than conventional units. See diagram for comparison.

Besides these advantages, the new Carrier high-velocity Rotaspray Weathermaker provides superior control of conditions and greater flexibility to meet load variations and revised arrangements of production machinery. In 4 sizes with capacities from 10,500 cfm to 30,000 cfm, and up to 115 tons. For complete details, call your nearest Carrier office. Or write Carrier Corporation, Syracuse, New York.

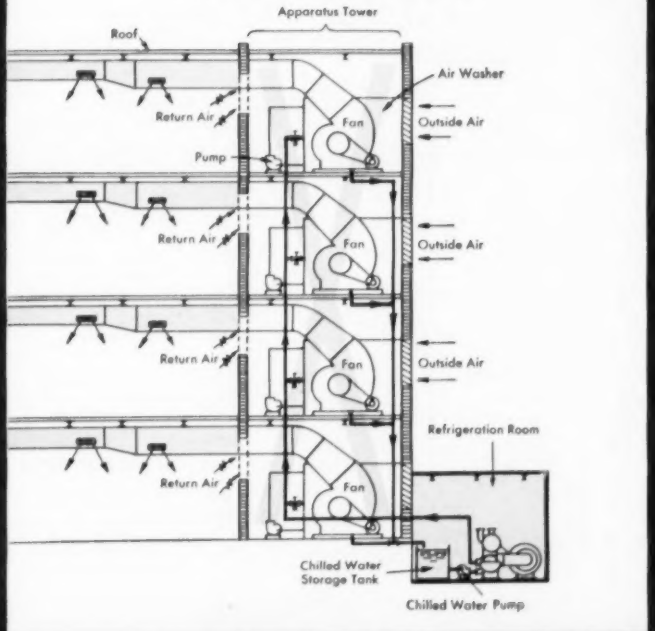
Carrier air conditioning · refrigeration · industrial heating

*Reg. U.S. Pat. Off.

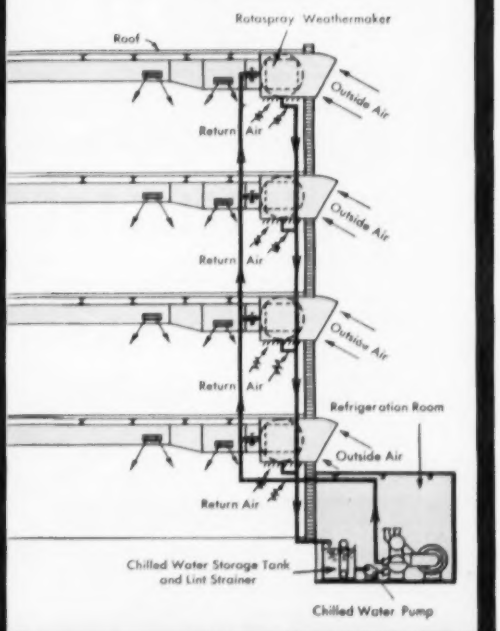


LOOK HOW THE CARRIER ROTASPRAY WEATHERMAKER SYSTEM ELIMINATES THE NEED FOR AN APPARATUS TOWER

Conventional Central Station System with apparatus tower



New Carrier Rotaspray System without apparatus tower



In addition to doing away with the need for an apparatus tower, the Carrier high-velocity Rotaspray Weathermaker System substantially lowers maintenance costs. It also has a lower operating weight and occupies less space than conventional systems.

SUPPLIERS News — WHAT THEY ARE DOING

subsidiary, Emery Industries (Canada) Ltd., which has acquired the land, buildings, manufacturing facilities and existing fatty acid business of S. F. Lawrason & Co., Ltd., of London, Ontario, the latter to be retained by Emery as exclusive sales agents for all Emery products except Sanitone. R. T. Hull is vice-president and general manager of the new subsidiary.

Southeastern Loom and Machine Works, a division of Abney Mills, has completed its move from Greenville, S. C., to its new, modern one-story plant in Greenwood, S. C., located at 711 West Alexander. The new location provides the firm with 138,000 sq ft of floor space for its manufacture of looms, loom parts, card and drawing coilers, spinning frame pulley spindle drives, and other equipment as well as special machinery for the textile and paper industries.

Michael Lombardo has joined the service department of **Universal Winding Co.** as a specialist in looms and weaving and thus will be associated with the installation of Unifil loom winders. Formerly Mr. Lombardo was superintendent of weaving at Pepperell Manufacturing Company's Fall River, Mass., mill.

Managers of newly-established sales offices in the South for the Michigan Alkali Division of **Wyandotte Chemicals Corp.** are Roger Moister, southeastern district office, at 46 5th St., N.E., Atlanta 5, Ga., and

Mr. Starkey **Mr. Moister**
Wyandotte Chemicals

Scott Starkey, southwestern district office at 304 National Bank Building, Baton Rouge, La. David B. Bolander is resident salesman for the southwestern district and will reside and operate out of Houston, Texas.

Charles F. Radley, one of the original directors of **Oakite Products, Inc.,** has retired from active duty after an association of forty years with the company. For the past thirty years, Mr. Radley has been director of publicity and will continue as a consultant on advertising, public relations, and general management policy.

Onyx Oil & Chemical Co. announces the appointment of Philip E. MacLean to the position of sales manager of the textile division. Mr. MacLean, who was formerly district manager of the New England area, is assisted by Paul Jacobs.

Proctor & Schwartz, Inc., is erecting an additional new plant to occupy between 50,000 and 75,000 sq ft on a 27½ acre site between Waynesville, N. C., and Lake Junaluska. The new operation, which will be started on a small scale, employing local people and manufacturing initially textile fiber processing machinery, will advance into sheet metal work and the manufacture of drying equipment. * * * The Fred Whiteside Corp., of 10 High Street, Boston, Mass., has been appointed as

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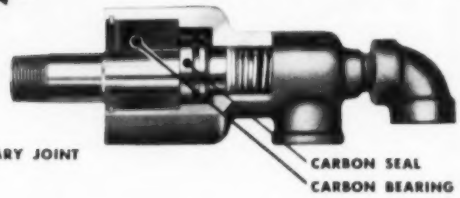
SEALOL

CUT MAINTENANCE COSTS WITH CARBON
as used in
SEALOL Rotary Joints!!



- BALANCED PRESSURE principle employed
- SIMPLE, COMPACT, streamlined design
- LOW TORQUE means power savings
- LEAK-PROOF design protects fabrics
- AUTOMATIC TAKE-UP for normal wear
- BEARING CHOICE (carbon or ball)
- MINIMUM MAINTENANCE, self-lubricating
- TO 150 psi steam, 300 psi hydraulic

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on All Synthetics—Blends

Plus FUGITIVITY
UNMATCHED
ON NYLON & WOOL!

The Amazing New

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ALLEN
Kiers, Top Dyeing Machines
Special Bleaching Equipment

Textile mills now using, or seeking to purchase Allen Dyeing and Bleaching Equipment will welcome the announcement that all Allen products are now being manufactured by O. G. Kelley and Company of Boston, Mass., with William Allen Son's Company, the former owners, acting as engineering consultants and sales representatives.

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Division of **O. G. KELLEY & COMPANY**
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REPAIR PARTS
Repair and replacement parts, precision built specifically to fit your ALLEN equipment, are now available or can be specially made for prompt delivery.

SUPPLIERS News — WHAT THEY ARE DOING

manufacturer's agents for the firm's air slasher dryer, electrically heated laboratory dryer, skein and swatch dryer, and metallic wire for cotton cards, among other equipment.

Joy Throwing Company is now being represented in North Carolina, Virginia, Maryland, Pennsylvania, New Jersey, and Delaware by Cole B. Stanley, director of sales of Hickory Dyeing and Winding Co.

Graver Water Conditioning Co. has announced the appointment of Vincent J. Calise as general sales manager.

At the **Foster Machine Co.,** Hal E. Hornbuckle has been promoted to the position of service supervisor, working out of the Charlotte, N. C., office.

Jack Harrison, formerly director of sales for the narrow fabrics division of **The Fletcher Works,** has been elected vice-president and sales manager of the division, succeeding Charles Moore who has resigned.

Sole Chemical Corp. was recently organized as a highly specialized chemical marketing organization by Solomon Epstein, former executive vice-president and general manager of Emulsol Chemical Corp. As president and general manager of the new firm, Mr. Epstein states that the company will base its organic specialty sales program on a customized technical service program. Administrative headquarters and central development laboratories are located at 27 E. Monroe St., Chicago, Ill.

G. L. Stancliff, Jr., has been appointed vice-president and general manager of **Askania Regulator Co.,** a subsidiary of General Precision Equipment Corp.

Mr. Stancliff
Askania

Mr. Brick
Intex

Mr. Hornbuckle
Foster Mach.

Mr. Printz
Textile Mach.

Mr. Kellett
Scott & Wms.

Mr. Goldstein
Moretex

Scott & Williams, Inc., has promoted to the post of assistant vice-president, sales, Harold G. Kellett, for 34 years associated with the firm, most recently as sales manager.

Formation of a new company for the manufacture and sale of a complete line of industrial and textile chemicals and auxiliaries, **Intex Chemical Corp.,** is announced by Leon P. Brick, president. Location of the firm's main office and plant is 167 Main St., Lodi, N. J. Mr. Brick was previously associated with Onyx Oil and Chemical Co.

At the site of its multi-products plant at Dighton, Mass., **Arnold, Hoffman & Co., Inc.,** is setting up a plant for the manufacture of Procion dyes in the U. S. Active production of the new dyes, developed by Imperial Chemical Industries, is expected to begin early in the autumn of 1957.

Henry Printz, senior sales representative for **Textile Machine Works** for the past two years on loan to the firm's overseas organization in England, is returning to the United States to reassume his Canadian territory as representative for the company's hosiery and outerwear machines and circular machine for men's fancy patterned hosiery.

Moretex Chemical Products has appointed as office manager and comptroller Robert Hodges who was formerly associated with Reeves Brothers. Oliver Goldstein has been shifted from plant manager to technical assistant to the sales manager with duties in field development and new products. Donald Davis has been made plant superintendent in charge of plant operations. * * * Additional equipment for the production of extremely fine emulsions for textile processing has been purchased by the firm.

Top officials and members of the board of directors of **Westinghouse**

COLOR RICHES
top colorfastness...color beauty...
color uniformity...color versatility
UNLIMITED for fabric, apparel, home furnishings, everything
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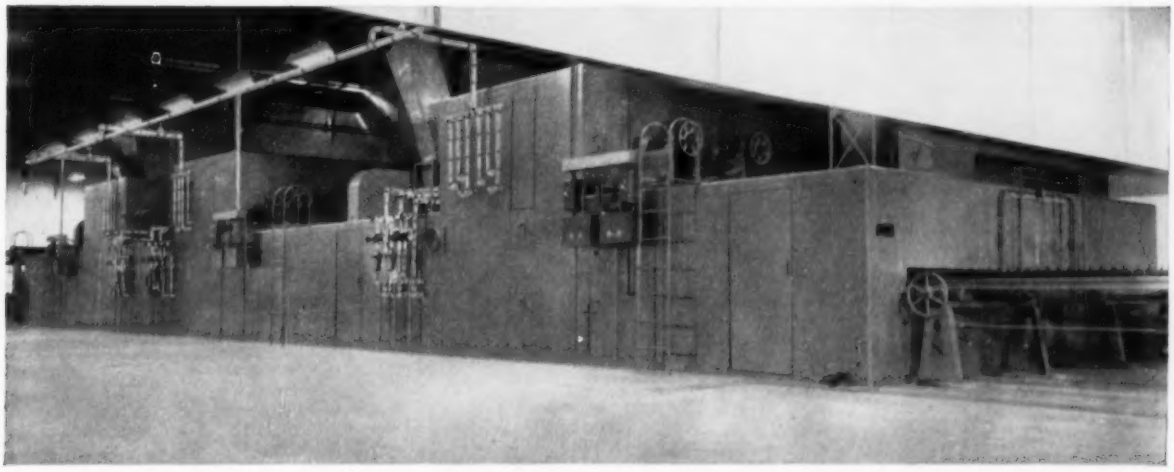
Tenter Housing Output

UP 50 TO 150%!

Proctor's duplex air circulation is the answer



The reason why the Proctor Tenter Housing offers the greatest drying capacity per foot of length, lies in the careful design of Proctor's duplex air circulation system. It is the only system that gives absolute uniformity of drying or curing. User experience has actually proven output increases of up to 150% over conventional housings!

The Proctor air circulation system, with its accurate control, has another advantage too. It permits handling of the widest range of fabrics, with the assurance that each will receive exactly the correct treatment.

You cannot afford to overlook a machine that will pay for itself, out of savings, in two years, as shown in actual case histories. Ask for a Proctor engineer to go over your requirements, and judge for yourself the advantages to be gained by the use of this Tenter Housing.

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PROCTOR & SCHWARTZ, Inc.

PHILADELPHIA 20, PA.

Manufacturers of Textile Machinery and Industrial Drying Equipment

Proctor

SUPPLIERS News
WHAT THEY ARE DOING

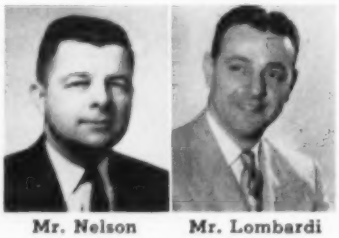
Electric Corp. joined with local and state leaders in Athens, Ga., to break ground for a new distribution transformer plant for Westinghouse. To be located on a 238-acre site just north of the Athens city limits, the one-story structure will have about 750,000 sq ft of floor space, and manufacturing space will occupy 633,000 sq ft. Operations are expected to begin at the new plant in the summer of 1958. * * * H. C. McDaniel has been named director of technical information and Robert V. McGahey was appointed manager of technical publicity for the company.

The Cleveland district office for **Alvey Conveyor Manufacturing Co.** was recently moved to 16360 Broadway in Bedford, Ohio.

Continuing a program of decentralization initiated some time ago by **Vickers Incorporated,** the new machinery hydraulics division will have M. A. Hayden as general manager and W. F. Driver as general sales manager.

Bryan T. Horton is the new **Victor Ring Traveler Co.** representative in the Piedmont, eastern North Carolina, and Wilmington area. Mr. Horton's address is Box 842, Gastonia, N. C.

Veeder-Root, Inc., counting devices division, has named two longtime sales executives of the company to newly created posts. T. Nelson, Jr., is now eastern sales manager of the division, serving the territory from Cleveland east, and including all the East, Southeast and Northeast. His



Mr. Nelson **Mr. Lombardi**
Veeder-Root

headquarters remain in the home office in Hartford. Just prior to his new appointment, he was field sales manager. C. Charles Lombardi, head of the firm's Chicago office for the past 11 years, is now western sales manager, supervising the territory from Cincinnati to the Pacific Coast, with headquarters remaining in Chicago.

Changes in the executive staff of the Naugatuck Chemical division, **U. S. Rubber Co.,** have been announced as follows: Earle S. Ebers, formerly general sales manager, has been appointed assistant general manager of the division, the post previously held by George R. Vila, newly elected vice-president and general manager. Harold M. Parsekian has been promoted from assistant general sales manager to general sales manager. * * * Philip Bergh, formerly merchandise manager of Lastex for the textile division, has been appointed advertising and sales promotion manager of the division. He will direct advertising and sales promotion on Asbeston, Lastex, Trilok, Uspun yarns, and all other products of the division.

All of the manufacturing and sales activities of the former Robert Gair Co., together with those of Continental Can's Fibre Drum and Paperboard Divisions, have been incorporated into the new Robert Gair

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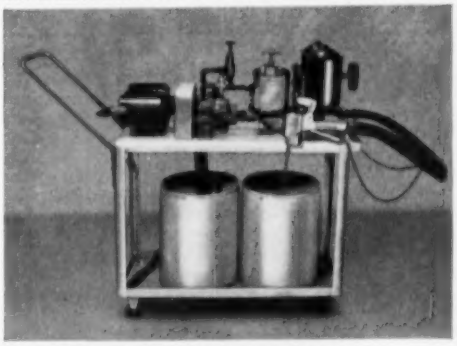
- ★ Greater efficiency—operates with as little as one gallon of oil, filters the old oil and returns it for further use, or flushes out the old oil and replaces it with all new oil.
- ★ Complete flexibility—different oils may be used interchangeably by simply switching oil containers.
- ★ New filter gauge tells when filters need changing.
- ★ Relief valve permits full control of pressure from 0 to 35 lbs.



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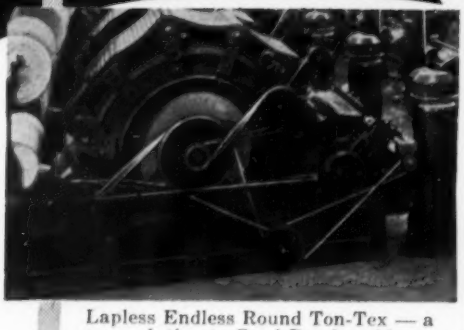

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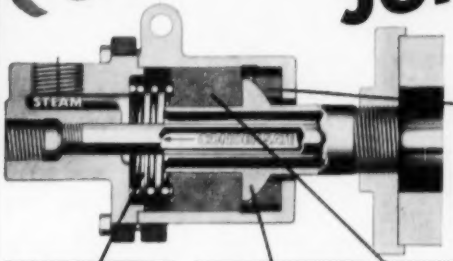
30 Years Serving Industry

Only 4 internal parts in this self-supporting Johnson Joint



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2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.

3. NIPPLE — Rotates with roll, seals against ring.

4. SPRING — For initial seating only. In operation joint is pressure sealed.

With this 3000 Series Type S-B2 Joint, an assembly plate can be added at any time; it is used with the Johnson Syphon Elbow, to hold internal parts in position when the head is removed. Write for Bulletin No. S-2001.

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1,400,000 8" Quills—Mostly Draper Fit Whitin Medium Spindle
16,000 5" x 8" Double Head Twister Bobbins
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Many other sizes
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EXECUTIVE WHO CAN DO SCHEDULING AND PLANNING OF PRODUCTION OF NOVELTY YARNS AND FANCY FABRICS ON DOBBY LOOMS IN SMALL MILL IN CONCORD, NORTH CAROLINA. Reply to Box 1, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 8, Ga.

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Division of **Continental Can Co.** George E. Dyke, vice-chairman, will serve as executive head of the division pending the selection of an executive vice-president, and will be assisted by Raymond F. DeVoe, a Continental vice-president. Peter P. Wojtul, heads up the new division's fibre drum and corrugated box operations as vice-president and general manager. Norman F. Greenway is in charge of boxboard and folding carton operations as vice-president and general manager.

At **Reliance Electric & Engineering Co.** two executives have been given new titles designed to more adequately define position responsibilities. Richard A. Geuder, who has been general sales manager, is now general manager - marketing; and Carl V. Gregory, who was formerly manager of district sales, has become sales manager, and continues to report to Mr. Geuder.

Sandoz, Inc., has promoted Herman L. Schwarz to the position of New York district sales manager for textile dyestuffs and chemicals. Previously assistant sales manager for the New York office, Mr. Schwarz has been with the firm for 29 years.

S. A. Felton & Son Co. has named as new distributor for their line of textile and industrial brushes in N. C., S. C., Va., Ga., Tenn., and Ala., the G. R. Schmidt Manufacturing Co., Greenville, S. C.

Koppers Co., Inc., has announced plans for increasing the scope of its dye business which has been conducted by its wholly owned subsidiary, **American Aniline Products, Inc.** The program involves integration of the subsidiary with the chemical division of Koppers; the building of a new laboratory at Lock Haven, Pa., for the development of new dyes and chemicals; and improvement of its sales, warehousing, and service laboratory facilities in its eastern and midwestern sales districts.

Promotion of James W. Sweeney from sales supervisor in the Cleveland and Detroit areas to Dallas branch sales manager, industrial trades tape division, has been announced by **Minnesota Mining & Manufacturing Co.**

Newly named sales manager of the industrial division of the **Warner Electric Brake & Clutch Co.** is Roger H. Brown, formerly regional sales manager of the company's eastern division.

Whitinsville Spinning Ring Co. has appointed Peter C. Everett as representative for Georgia, Alabama, and Tennessee. His address is 369 Meadowbrook Drive, N. E., Atlanta, Ga. W. K. Shirley continues to represent the company in the Carolinas and Virginia, with address at 25 Oak St., Belmont, N. C.

Mr. Everett
Whitinsville

To promote plant safety in materials handling operations **Towmotor Corp.** is offering free kits of specially prepared safety aids designed to augment plant-wide safety programs.

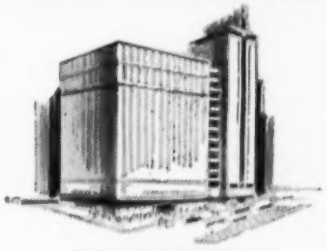
Expected to be ready for occupancy in January, 1958, is a new product and process development laboratory at Waterford, N. Y., for the silicone products department of **General Electric Co.** The new, two-story research building will provide about double the space now available for laboratories and will be fully equipped for study of all aspects of silicone chemistry.

SUPPLIERS News
WHAT THEY ARE DOING

The Torrington Co. announces the appointment of E. Paul Schwarze as a sales representative of the company's New York branch, covering southern New England and parts of Long Island. Prior to joining the firm, Mr. Schwarze was employed as a technical sales representative with the Sauquoit Silk Co. of Scranton, Pa.

The **United Knitting Machine Co.** has donated a single head, 32-inch section 24-gauge sample full-fashioned sweater machine to the Philadelphia Textile Institute.

Everything's New at
DINKLER HOTELS



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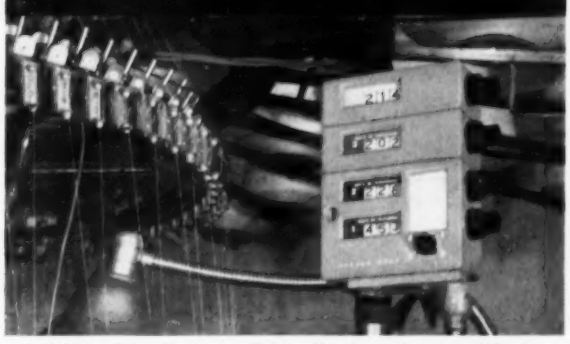

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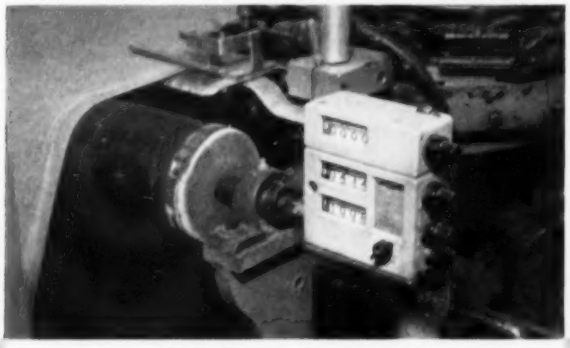

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